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LIME.

[The following remarks on the use of lime, are extracted from the Annual Report of the Geologist of the State of Maryland, for 1839, furnished us by a valued and attentive correspondent.]

A very striking experiment that speaks volumes of encouragement to those who still hesitate in the use of lime, is furnished by the Hon. Outerbridge Horsey, a part of whose farm, situated at the foot of the south mountain, on the edge of what is termed "The Maryland Tract," consists of a very thin silicious soil. It is this, of two pieces of ground, both of the same geological character and nearly in equal arable condition, one was limed with fifty bushels to the acre, the other was well manured, without lime, and both planted in corn. The limed portion, previous to the operation, was remarkably poor, yielding at most two barrels to the acre. It promised in the month of August, to the eyes of some experienced farmers, to yield to the acre eight barrels of corn, which to all appearances was one third better than on the manured portion. But besides the prejudice that exists against the use of lime, as regards the incapacity of certain soils to receive any benefit from it, it is most generally objected to as too expensive; whereas in truth it is, taking all circumstances together, the cheapest as well as the most effectual means of improving all kinds of soil, which assertion will, I trust, be manifest by these two considerations, namely, that it is the surest and most permanent. If judiciously employed, the directions being simple, as will presently appear, the expenditure of capital in the first year cannot fail to be at least repaid by the additional product of the next, and nine times out of ten will supply the means of extending its further use in future years. Judgment and reflection undoubtedly must accompany this as well as every other scheme of improvement that could possibly be devised for any purposes.

Having taken especial pains to inquire minutely into the subject, referring not only to the results obtained by experience, but to the cause that may have produced these results, I hazard the following suggestions to the farmers of Frederick county, and the recommendation applies to all other portions of the State. Get lime, at almost any expense, and apply it according to the nature of the soil as is herewith directed. If the soil is naturally a good one, and under good cultivation, it is advisable to apply at once the whole quantity of lime which it may be judged necessary permanently to improve it, and this quantity on such soils need not exceed one hundred and fifty bushels. Should it be impracticable or inconvenient to procure in the same year the whole quantity, from fifteen to seventy-five bushels may be first applied, and the remainder two years afterwards, after the first cutting of the clover. These directions apply to wheat land, on which it appears preferable to turn in the vegetable matter first, then apply the lime, to be harrowed in subsequently. On corn lands the method that has been crowned with the best success, is that pursued by one of the most thrifty farmers of Carroll county, Mr. Jacob Schriver, which is to mix the lime in the soil with stable manure. In this way, he informs me, that he has obtained very heavy crops upon poor land with only from forty to fifty bushels of lime. In general, for unimproved lands, it is always better to turn the lime in with

stable manure, and when not so provided, with any vegetable matter that may lie on the soil. A good plan is to turn the lime in with the sod, sow buckwheat, and when in blossom return it to the soil, furnishing in this way vegetable matter for the lime to act upon. In this latter case, the returns, though certain, are not so speedily to be expected. Those farmers who burn their own lime, should not neglect to use the refuse of their kilns in making composts with alternate layers of it, and of whatever vegetable or animal matter they can bring together. These, when properly mixed up, and comminuted, are to be used as ordinary manures. The foregoing directions apply to all sorts of soil, whether they be on limestone lands, red lands, chestnut lands, or any kind of lands, whatever be their colour, texture, or other physical characters; provided there be soil enough to support any sort of vegetation.

I have in former reports given my theory of the action of lime, and although farmers are more immediately interested in the results of its application, they cannot fail to employ it more judiciously, as well as other manures, when they understand the reciprocal action that takes place between these and the plants which they wish to cultivate. I shall, therefore, introduce here a few simple notions of vegetable physiology, and repeat again what I conceive to be the mode of operation of lime. Every one knows that plants have not the power of creating new elements, which they at most can assimilate and elaborate so as to form new compounds out of those derived from the earth, air and water, in which they live. Accordingly, the result of a chemical analysis shows that all the earthy and saline matters contained in them are traceable to the earth; whilst by their destructive distillations, they are found to yield gases, that form the elementary constituents of air and water. The principal solid constituent of vegetables is carbon, or charcoal, which vegetable physiologists assert they derive in the first place from the carbonic acid gas of the atmosphere, and from the fermentation of the animal and vegetable substances that during their progress of decomposition in the soil also yield this gas, and is supposed to be either decomposed by the leaves of vegetables, or absorbed by their roots when in a state of aqueous solution. It is found that when a plant is allowed to grow under a glass receiver, containing a mixed atmosphere of carbonic acid gas and oxygen, the former gas is gradually absorbed, and nothing but pure oxygen remains, and this process of vegetable decomposition goes on more rapidly under the influence of the solar beams, for during the night the reverse takes place, though the quantity of carbonic gas which they emit is trifling, compared with that taken up in the day. Thus plants are constantly removing from the atmosphere a gas known to be deleterious to animal life, though necessary to themselves, and replacing it by one essential to both man and brutes, exhibiting a most admirable provision of nature, to which we must refer that healthfulness of a country life, which, combined with active exercise and the enjoyment of rural sports, make the mere consciousness of existence a pleasurable sensation. It is also an admitted opinion among vegetable physiologists, that plants have the property of secreting from the soil that sort of food which is most congenial to their own wants, whilst they at the same time, excrete, or throw off, that which is best suited for their own growths. If this doctrine could be well established by experimental results, the pursuit of the agriculturist would become a science founded upon an immutable basis, and a consistent system of rotation in crops would secure to him a perpetual recurrence of good crops. But it must be acknowledged that this is the most obscure department of vegetable physiology.

As to the action of lime, or rather carbonate of lime, I can conceive it to operate in three important ways. 1st. As a neutralizer of any acidity of the soil which renders it prone to throw out ascescent growths, such as sorrel, pines, briars, &c., that interfere with the production of plants that afford farinaceous seeds, in which case it may be supposed, by a new combination, to give out its carbon to the growing vegetable. 2d. As an amender of soils; since it undoubtedly contributes to stiffen a loose soil, and gives body and consistency to a porous and sandy one, thereby improving its physical condition. And 3d. As a septic, or decomposer of the vegetable matters that may have existed in, or been applied to a soil, reducing them into soluble compounds, fitted to the nourishment of vegetable life. These I conceive to be the most immediate benefits derived from the application of lime; but it would seem to act also beneficially as an absorbent of moisture, for it has been found to protect soils from the pernicious effects of a drought, and when used for making compost, its utility and action are as easily understood as explained. When applied in alternate layers, with stable manure, or vegetable and animal matters of any kind, a powerful fermentation takes place, which gives rise to the formation of a compound called ammonia, and to the production of carbonic acid. A re-action soon takes place between these two substances, and a carbonate of ammonia is thus formed, together with numerous other salts; and the whole mass is converted into a powerful

manure. Lime is further serviceable to the farmer, by enabling him to destroy the insects and the seeds of weeds that frequently accumulate in the barn yard manure; for by applying it in its caustic state in alternate layers with the manure, sufficient heat is generated to destroy them effectually; and this operation produces, moreover, a variety of soluble salts, that increase the action of the manure, if it be used before they have been removed by rain. There is another combination of lime which is very valuable to the agriculturist; it is that in which it exists in bones, that are principally composed of phosphate of lime. Most extraordinary results have been obtained by the use of ground bones, as a top-dressing, especially on buckwheat crops.

It follows from the above consideration that it is a matter of much importance to the Maryland farmers, to obtain lime at as cheap a rate as possible. Desirous of serving them in this way, I have turned my attention to the subject of lime-burning; and after reflecting upon the theory of the operation, and consulting the practice of the most experienced lime-burners in the State, I think I am enabled to give some simple directions, the observance of which will have the desired effect.

In the first place, as regards the construction of the kiln, I recommend that it should be in the shape of a truncated egg at both extremities, with the butt-end downwards, contracting the upper extremity, so as to make it act in the manner of a reverberatory furnace. Its shape should be very symmetrical with a view of securing a uniform draft in all parts; and it should be built with solidity, of the most refractory material, with an elevation about twenty-two feet, and a bulge at its greatest diameter of eleven feet. A kiln of this size will burn from 1,000 to 1,200 bushels of lime.

Next, in conducting the operation, which, according to the present practice, lasts at the least three days and three nights, all lime-burners agree that on the morning of the third day, their kilns become choked up by something which prevents the formation of fresh lime, and during the whole of which they are burning wood apparently to no purpose. The cause of this choking, when the kiln, in popular language, is said by some to be sot, and by others glued, is owing to the accumulation of that peculiar gas which it is the object of the burning to separate from the lime, in order to bring it into a pervulent state. This carbonic acid gas, as it is termed, is very heavy, so that where it has thus accumulated, it forms a dense atmosphere, binding round each unburnt portion of stone, and thereby impeding the progress of its calcination. It is true that by urging the fire, the gas finally becomes so rarified as to be expelled; but this is the unprofitable part of the labour, which may be avoided by simply throwing some water over the kiln. The water immediately absorbs the gas, the kiln is relieved, and the calcination proceeds as rapidly as in the first stages of the progress. In corroboration of this view, I have found that it agrees with the experience of several observant lime-burners, one of whom informed me, that on an occasion, when his kiln was in the condition above described, his hands becoming impatient at the delay of their expected results, bethought themselves of ascending to the top of the kiln and fanning it with their hats, and were surprized to find their operations, by this simple act, greatly hastened. The effect was evidently, in this case, to remove by ventilation the dense atmosphere of gas, as previously stated, that by its pressure prevented calcination of the limestone. Another tells me that under similar circumstances, the same phenomenon was produced by the timely occurrence of a shower of rain.

If our lime-burners then will adopt the plan of kiln described above, and resort to the simple device just suggested for expediting their operations, I have not the least doubt that they will find in it a saving of one-third of their time, labour and fuel; and by so doing, they will be enabled to afford this most invaluable material at one-third less than its present cost, putting it thus within the means of a much greater number of farmers, to reap the benefits to be derived from its use.

From the Horticultural Magazine.

On the Cultivation of Celery.

BY J. W. RUSSELL.

As good celery is always sure to meet with a ready sale in the market, and commands a liberal price when found there, I propose giving a few practical remarks on the necessary treatment required, from the first sowing of the seed in the spring, to the taking up of the roots, in the autumn, for use. In the first place, be it remembered, that the writer of this does not claim any greater knowledge than that possessed by gardeners and others, who have had experience in the cultivation of celery; but as this article may meet the eye of those persons who have not acquired the requisite knowledge, to grow it to perfection, it is probable that they may glean something from it, that may be of some assistance to them.

There are six or eight varieties of celery cultivated, and all those who cultivate it, have their favourite kinds; nevertheless, I will venture to recommend the white solid,

and the rose coloured solid celery, to be grown, either for the market or for private family use. The second week in April, if there is a cucumber frame at work, prepare two or three shallow boxes, and fill them with fine rich soil, and sow the seeds on the surface, with a liberal hand; then press it down pretty *solid*, with a piece of board, and cover it, lightly, with very fine sifted earth; this done, give the whole a gentle watering, and place the boxes in the frame, close to the front.

When the plants make their appearance, give them air every day, if possible, by propping up the sash, at the front, where the boxes are placed. As soon as it is perceived that the plants have the least tendency to grow up weak, they must be removed from the frame, immediately to the *open air*, choosing some well sheltered spot. On the approach of foul weather they may be removed to some place under cover, and taken out again after the unfavourable weather is over. If no frame, so spoken of, be at hand, sow the seed on a rich, moist piece of ground, the last week in April, in a sheltered situation: the ground must be well enriched for this purpose, and the older the manure is, the better. Dig it over, and rake the surface very fine and even; then sow the seed pretty thick, on the surface, and with a clean spade beat it *lightly* down, nice and even, and cover it over, about a quarter of an inch, with fine soil.

As soon as the plants are about two inches high, they should be transplanted into a nursery bed—but, previous to this, the ground must be well manured and dug over: then lay a board on the ground, in order to stand upon, and set the plants out in regular order, at least three inches apart, plant from plant. Some may think this last process too much trouble; but I can assure all who have such an idea that it is a process indispensably necessary, and the utility of it will be presently seen. When the plants are taken up from the seed bed, before proceeding to transplant them, do not neglect to rub off all the side shoots, which, it will be seen, are just making their appearance around the base of the plants, and cut off the ends of the roots, if it is desired to produce first rate celery.

About the first or second week of July the plants will be ready for the final planting out—their strong, robust appearance, by this time, I imagine, will give great encouragement to the grower, to go on and end the good work: but, on the contrary, if the plants had not been removed from the seed bed, as before advised, what a miserable appearance would they now make, so much so, that the stems being too weak to bear up the tops, now that they stand singly, they would lie flat upon the ground. When this is the case, the remedy is to cut off the tops, and leave three or four naked stems sticking up—a disgrace to any person who has the least pretensions to its cultivation. The plants being so weak, it will be found necessary to shade them from the sun, through the middle of the day, for some time, until nature has made a fresh effort, and the plants start to grow: not so with those that have been transplanted; for by removing them with a trowel, on a damp day, they will scarcely feel the change. This is the gain,—for whilst the others will require shading and nursing, these will be making a rapid growth: and however well the former plants are nursed, it is rare that they ever make such good heads as those that receive no check.

If the cultivator has a peat meadow, that is at *no time* overflowed with water, he will find it the best situation of any for the growth of celery; but as there are but few, comparatively speaking, who have such facilities, the next best location would be where the soil is deep and moist, with the sub-soil clay. One sure guide to go by is, always to prefer deep moist soil, whatever the sub-soil may be, for it matters not, however rich the ground is made with manure; if there is a deficiency of moisture, the growth will be stunted.

In preparing the trenches for the final planting, if the soil is deep, dig it out to the depth of eighteen inches by fifteen inches in width; and the length as far as is thought proper for the number of plants; six inches of the trench must be filled up with the best *old* rotted manure that can be procured; as long strawy litter is not suitable, it should never be used. After the manure has been thrown into the trench, it should be dug over, in order to mix the soil at the bottom of the trench, thoroughly with it; this done, cut a little of the soil from each side of the trench, for the purpose of covering it about an inch, and it will then be ready for the plants, which should be set out six or eight inches apart, in a straight line, down the centre.

Keep the celery free from weeds, and earth a little, at different times, until the trench is nearly filled up; then earth it up *no more*, until it is done for the *last time*, which should be the first or second week of September, or sooner, if necessary. I have two reasons for following this process. The first is, that the roots of the plants are already covered as much as they ought to be, if we suppose the sun and air has any effect on them, or is of any benefit to them. My second reason is, that the celery will make a stronger growth, and will be very much superior, both in size and quality, to that which is earthed up every week or ten days, as is generally done.

Good celery ought to be solid, thoroughly blanched, and of large size, and perfectly clear of any blemish, such as *rust* or *canker*.

Professional Life.

The ambition of adopting "professional life," of all kinds, at the present day, is the source of countless instances of misery. Every profession in England is overstocked; not merely the prizes are beyond the general reach, but the merest subsistence becomes difficult. The "three black graces, law, physic, and divinity," are weary of their innumerable worshippers, and yearly sentence crowds of them to perish of the aching sense of failure. A few glittering successes allure the multitude; chancellorships, bishoprics, and regiments figure before the public eye; and every aspirant from the cottage, and the more foolish parents of every aspirant, set down the bauble as gained when they have once plunged their unlucky offspring into the sea of troubles, which men call the world. But thousands have died of broken hearts in these pursuits, thousands who would have been happy behind the plough, or opulent behind the counter; thousands, in the desperate struggles of thankless professions, look upon the simplicity of a life of manual labour with perpetual envy; and thousands, by a worse fate still, are driven to necessities which degrade the principles of honour with them, accustom them to humiliating modes of obtaining subsistence, and make up, by administering to the vices of society, the livelihood which was refused to their legitimate exertion.—*Blackwood.*

Benevolence in Birds—Their Usefulness, &c.

The communication of H. C. in the Farmer of the 5th inst., relative to the canker-worm, in which he says the only effectual remedy against these insects known to him is "the encouragement of birds," brings fresh to our recollection some reminisences respecting this persecuted, interesting, and useful race, which we think will be pleasing to our readers, particularly to the younger ones. We can hardly say with the writer of the article, that "killing a small bird should be placed in our penal code next to killing a child;" but we do say that it ought to be met with a punishment sufficient to prevent the destruction which annually takes place, in mere wantonness or sport, among the innocent songsters of our groves and orchards. We have been almost disposed in times past to bring the boys before Judge Lynch, and might probably have done it could we have put our hands upon them.

While residing in Lancaster a few years since, we were located near the river which runs through the town, whose banks and intervals are ornamented with numerous fine elms and other trees, which add much to the beauty of this pleasant village: in these trees the birds congregate in great numbers, and rear their young. A gigantic elm, the admiration of travellers and the pride of the village, threw out its wide spreading branches over the cottage in which we dwelt, and while it shielded us from the scorching sun, afforded in its ample head, (a forest almost in itself,) a secure retreat for a great variety of birds, whose movements afforded much amusement for the family. Among these birds were a pair of crow black-birds, who had selected the fork of a partly decayed limb very high in the tree, as a place to build their nest and rear their young. Having in my juvenile days some prejudice against this bird, as I was taught, that with the crow it would dig up the newly sprouted corn, and commit sundry other depredations, I therefore viewed them with a suspicious eye as I saw them in company from day to day upon my newly planted grounds, busily engaged in helping themselves to what they liked best. I satisfied myself soon, however, that they had been vilely slandered, and that they were friends and not enemies: it was evident they were clearing my grounds of grubs and worms at a great rate. They soon found that I was no enemy to them, and consequently became quite tame and familiar, following the plough or harrow with nearly as much confidence as the domestic fowls. It appeared that there was a good state of feeling among the numerous tribes that inhabited the tree, consisting as they did of so many families, embracing the robin, blue-bird, sparrow, golden robin, and a variety of others, and things seemed to prosper among them and go on well, until the night before old fashioned "'lection," (a fatal day to the feathered tribe:) during that night there was a very high wind: early in the morning I was awakened by an unusual clamor among the birds, and rose to ascertain the cause—I found that the decayed limb, on the fork of which was the crow-black-bird's nest, had been broken off by the wind, and the nest and contents, (five young ones,) precipitated to the ground, and that four of them were dead or dying. The surviving one was nearly fledged, and could fly a little. I picked it up from the grass, and placed it in a secure situation, supposing the distressed parents would take care of it. The old ones continued their clamor all the morning, which, with the sympathizing cries of the other birds, formed a melancholy concert.

While the black-birds had perched upon a neighbouring tree near the road, still giving

vent to their sorrow, a boy passed with his gun, fired, and brought them both to the ground and carried them away in triumph: luckily for the boy, I did not witness the barbarous deed, but it was noted by one of the family and soon reported to me. As I had become somewhat interested in the unfortunate orphan, I proposed to my children that they should feed it with worms until it could take care of itself, and accordingly placed it in a pen under the tree and returned to my work near by. It was not long before I heard from the young bird its peculiar note which it uttered when its parent brought food, and on looking up, saw that it had hopped up on to a joist to which the board fence was fastened, and to my great delight and surprise, beheld a blue-bird in the act of feeding it. That beautiful passage of scripture flashed upon my mind—"Are not five sparrows sold for two farthings? and not one of them is forgotten before God." My curiosity was now raised to see what would be the issue, and I soon found that any further care on my part would be superfluous, for the young chap had fallen into better hands. It was with the deepest interest I watched the movements of this devoted pair of blue-birds to their adopted one, for it appeared that both male and female had taken part in this work of disinterested benevolence, and devoted themselves with unremitting attention to its wants, until it was able to take care of itself. For a couple of days it remained near the spot where I first saw the birds feeding it, and being near a window, had a good opportunity to see how things went on between them. It appeared that the young one kept his benefactors pretty busy; for their incessant labours could hardly satisfy the young gormandizer, as upon an estimate, after much attention, he received a portion of food every two and a half minutes during the day, which appeared to consist of worms and grubs. The black-bird probably weighed twice as much as both blue-birds, and when it opened its capacious mouth to receive the food, it seemed as though its kind friends were in imminent danger of being swallowed whole. The blue-birds appeared alternately with the food and lit down a few feet in front of the bird on the fence, and viewed with apparent astonishment, the extended mouth of the young one for a second, then hopping up, deposited the food, then as quick back to the first position, regarding for another second with marks of satisfaction, the object of charity, and then away for a new supply.

In a few days the young bird found the use of its wings, and was followed from tree to tree upon the premises by its faithful providers, for nearly a week: it had by that time learned to find its own food; and soon it fell in company with some of its own kith and kin, and I could recognise it no more. Whether it ever returned to express its gratitude to its foster parents, we have never learned.

Many of my neighbours could testify to the above facts, as some of them called daily to see for themselves. J. B.

From the Boston Courier.

Birds—Canker Worms.

Mr. Editor—I see it stated in your paper of Friday, that the probable reason why the canker-worm commits small ravages in 'Flob,' is found in the care with which the birds are protected. I was reminded of a remark in Peabody's Life of Wilson: "He enters into a deliberate calculation of the exact value of the services of the red-winged black-bird, which certainly bears no good reputation on the farm; showing that, allowing a single bird fifty insects in a day, which would be short allowance, a single pair would consume 12,000 in four months; and if there are a million of pairs of these birds in the United States, the amount of insects is less by twelve thousand millions, than if the red-wing were exterminated." Let any one during the brooding season of robins or of other birds, rise by break of day and count the number of times old ones return in one hour with worms and insects, or, if he can, let him count through the day, and the number will be found to be almost incredible.

The practice of killing birds for mere amusement, is not merely indicative of cruelty and want of feeling, but is exceedingly detrimental to the interests of the community. If the farmers reflected and made calculations upon the subject, they would discourage and oppose it as one of the greatest scourges, and would pay a premium to their boys to let the birds alone, rather than furnish them with powder and shot to kill them.

And, now that I am upon the subject of insects and worms, let me add that there is a very unreasonable prejudice against toads. They are exceedingly valuable in gardens and other places, in consequence of the exterminating warfare they are continually waging against the bugs and worms. Any person who has them in his garden has a treasure there; and if he will watch them closely, he will find them accomplishing more in the way of preserving his squash and cucumber vines, and other vegetables, than he can do with all his troughs of liquid.

S. Y.

Small evils make the worst part of great ones; it is so much easier to endure misfortune than to bear an inconvenience.

From the Farmers' Monthly Visitor.

Wonders of the Honey Bee.

Hon. Isaac Hill:—I am pleased to find your Visitor what I anticipated it would be, the Register of the agricultural improvements of the day. I have read in it one or two treaties upon Bees, that family of insects which is the pattern of industry, system and good order, and which should have their habitions near the dwellings, and before the eyes of every farmer and horticulturist in the country. He who is fond of studying the wonderful works of Nature, will find but few subjects, which will more excite his curiosity, than the history of the Bee.

The bee possesses the united skill of the mason, the architect, the geometrician, and the civilian. Many naturalists of this and other countries have devoted much time in searching out their habits, admiring their sagacity, and in giving to the world the result of their researches. They have learned much, and there is much more yet to be learned of this wonderful insect. I have myself kept bees for thirteen or fourteen years. I long since felt the necessity of preserving these little creatures from the barbarous custom of annual suffocation. For a while I tried the box-hive, but found my bees unwilling to enter it, and I lost several swarms in trying to force them into it. I abandoned this kind of hive, and finished a room in my garret, dark and tight, with a communication through the external wall of the house, through which to give them a passage way. I placed a hive of bees in this room, their entrance into the hive being on a level with the communication, and near to it. To this room I have a door from my garret, never accessible to children or intruders. The room should be made impervious to rats and mice, which are very fond of bees, sparing not even their weapons of defence. This young swarm soon filled their hive, and then commenced their operations, beneath, above, and around the hive, filling in their white virgin comb, without the aid of bars, slats or cross pieces to build to, from the roof of the house to the floor of their room. At times, I stole into this apiary, and by the aid of a light, viewed the progress they were making, and the splendid columns of comb they were erecting. They had the benefit of the labour of all their increase—all their progeny; there was no swarming, no colonizing from this numerous family. Give bees room and they never swarm. Whoever heard of bees swarming from a hollow tree, till the space within was filled? After the second year of their operations, and during the coldest of the winter, while the bees all laid dormant at the centre of their *nectarine pile*, I took my family stores from the external layers, which always contain the whitest and purest in the store-house, and is the only portion which can be taken without injury to the residue. For many years my table was supplied from this room with the choicest of sweets, from which many a friend has enjoyed a treat, and lingered to admire this simple contrivance for the preservation of the bee, and the store-house so well adapted to receive the fruits of his labour.

In 1834 my dwelling-house was destroyed by fire, containing, in its garret, at least eight hundred pounds of honey, and of living beings a multitude which no man could number.

J. S. Keith.

Chinese Mode of Making Capons.

The chinese, who are very expert in the art of making capons, use the following method: The wing of the fowl being folded back till they meet, the left foot of the operator is placed on them, the fowl being laid on its left side: the great toe of the right foot is placed on its legs; the feathers are then plucked off by the side—an incision, about an inch in length, commencing about an inch from the back-bone and extending obliquely downwards, is made with a knife, the cutting part of which is bevelled to a point, like a dissecting scalpel. This incision is carefully carried through the skin, muscles and membranes, till the intestines are laid bare, while flat blunt hooks are put into the incision, which is extended and kept open by the elasticity of a bamboo, or whale-bone: the intestines are then pushed aside with a pair of forceps, which are used to lay hold of the stone, when it is by this means brought into view, while there is passed over it, through a bamboo or elder tube, a horse hair, which is drawn backwards and forwards through the tube till the spermatic chord is cut through; the stone is then scooped out. The other stone is removed in the same manner. No blood issues from the spermatic chords, nor does the animal seem to feel pain. The hooks are then removed, the wound is closed up, the feathers which have been plucked off are stuck upon the wound with the blood, and the wing being put down on it, the animal walks off as if nothing had happened. Young cocks, three month old, are made choice of for the operation, which must, if possible, be performed before July, as it has been remarked that capons made later than this never prove fine."—*Dickson on Poultry.*

He who maintains the rights of private conscience in religion, and individual judgment in politics, will be regarded as a sophist by the bigot in place, and as a radical by politician power.

Foot Rot in Sheep.

A subscriber wishes to know how to remedy this disease, which has broke out in his flock of sheep.

We had hoped that this disorder would not again be known among the flocks in this State. We saw considerable of it in several flocks about ten years ago, but have not heard of it for several years since, until now. It is a troublesome disease, and requires close and unwearied attention to eradicate it.

It consists in an ulceration of the foot between the claws of the hoof and underneath the hoof—spreading and becoming fetid and gangrenous, until at length, if neglected, the whole foot becomes a mass of disease.

The following method we have seen successfully used. First, cut away, with a sharp knife, the horn of the hoof where the disease is seated—let the part bleed freely. Then, cleanse it well with soap suds. Then take blue vitriol, make a strong decoction of it in water or spirits—but water will do—and plunge the foot in it, or apply it faithfully to every part. This should be done frequently, and the sheep should be kept in a clean place, where dirt cannot get into the diseased parts.

A solution of *Chloride of Lime*, applied to the foot is excellent in destroying the bad smell and bringing on healthy action.

This may be had of the apothecary or of the paper makers for a trifle. Whatever is done should be done thoroughly. It will be of no use to pare away part of the hoof, and leave a little part where it is diseased, untouched; nor will it do to take a part of the flock in hand and leave the rest. Some think that if sheep run in a pasture where others, affected with the disease have been, they will contract the disease from matter left upon the ground or grass. The truth of this we do not know.—*Maine Farmer.*

To the Editor of the Farmers' Cabinet.

Sir:—The very general opinion, that the dialogues which have appeared in the Farmers' Cabinet, would be acceptable to those for whom they were principally written, if they were re-published in book form, has induced the writer to revise and add to their number, with that view. They are now in the press, and will speedily be published. If those editors, who have considered them worthy their regard, would have the kindness to make this notice known, by giving it an insertion in their pages accompanied by their recommendation, they would greatly oblige the writer. Due notice will be given of their publication.

DEDICATION.

To the Junior Members of that most useful class of society, Agriculturists, these dialogues, the reminiscences of a long life, devoted to the pursuits of "Agriculture, Husbandry and rural affairs," and in which the characters are real—not fictitious—for there is a Frank, and a sister Susan—a Grabb, and a Sykes—the circumstances also having a "local habitation and a name"—and the observations and reflections being the result of much experience and investigation, are dedicated, by

Their very sincere and affectionate friend,

James Pedder.

29th Feb. 1840.

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Dialogue between a Father and Son.

Father—Take care Frank, how you lead the horse over this ice; do you see the water flowing underneath it? This brings to our recollection the wise ordination of Providence in the freezing of water, which is in direct opposition to almost every other known law of nature. All other bodies grow heavier while cooling, but if this were the case with water, the ice would, as soon as formed on the surface, sink to the bottom of the rivers, when, the surface again freezing and again sinking, it would soon choke up their beds, and the water, still flowing over and freezing, would cause a deluge of ice over the surface of the earth of incalculable thickness, to the inevitable destruction of every living thing, man, not excepted. The reason of its being lighter in a state of ice than water—which is, you know, the cause of its swimming—is, it contains a great quantity of air, as you might see, by those bubbles which are formed in it; and this air is *ordained* to be the cause of its breaking up at the time of thawing—but for this, a mountain of ice would be the work of a summer for the sun to penetrate and dissolve; and as I told you the expansion of ice at the time of freezing is extremely great, bursting with ease the most solid bodies, so also, the air which is contained in these bubbles, when expanded by warmth is equally irresistible; and in very cold countries, the explosions which take place, occasioned by this expansion, at the time of the breaking up of frost, are dreadful, equal to the loudest thunder! So, thus it is—water contracts in bulk as it cools, until it has reached the freezing point, when, immediately, its nature becomes changed, and it then grows lighter, as it freezes.

Frank—What a wonderful contrivance! I perfectly understand how that, if ice were

to sink in water, it would soon stop the course of rivers, for one of the little streams in the meadow has become frozen to the bottom, and the consequence is, the flowing over of the water, and this again freezing, and the water again flowing and again freezing, there is a sheet of ice twenty yards in width.

I hope, however, the frost will soon break up, for I see that our new plough is just brought home, and I long to try it; its fine wide share and long mould-plate must make great havoc amongst the weeds. I have often been astonished at the variety of ploughs that have been invented, each professing to be superior to every other. Is it not possible to determine which is the *best*, that so a preference might be given to it above all others? There is not only a difference in the formation of the body and mould-plate, but also in the mode of working them; some are with two wheels, others with one; some with a foot, and others with neither: now which is to be preferred, or is there, after all, no essential difference?

Father—A very interesting question; and that we may thoroughly understand the subject, we will go into its examination when we come to use our new plough in turning the two acre field for sugar beet, which was, you know, ploughed very deep in November of last year, preparatory to a spring working; then you will perceive the advantage of practice, when compared with mere theory, and will be enabled to decide which is, upon the whole, best suited for the purpose of *cultivating the soil*—that is the question with us, with many others it is, I believe, *which follows the horses most easily.*

Frank—I have often heard, that the plough which follows the horses the easiest, must be the best; now there might be a great difference in this respect, but as the horses cannot tell any thing about it, how are we to judge?

Father—An instrument has been invented to fix to the end of the beam of the plough by which the horses are made to draw; it is called an Eidometer, and has an index, by which may be seen, very exactly, how much power is required to draw it when put to different depths; it is something like the little instrument with which your mother weighs articles in the house.

Frank—I know—it draws out in length in proportion to the weight which is attached to it, and the number of pounds weight is stamped on the little index rod. This is a very clever contrivance, and must decide the question in an instant, for that plough must certainly be the best which requires the least power to drag it, provided the depth be the same; and I wonder why this best plough has not got into general use, to the exclusion of all others.

Father—How easily you have decided the question, and in the way too, in which many other interesting questions are decided, namely, by mere theory; by taking a statement for granted, and acting upon it; but if the statement be fallacious, so must be the conclusions which are drawn from it—just as if a man were to take for granted that the foundations of a house are good, and build upon them without examination, they might be defective and if they are, so will be the house, when completed, although it might look fair to the eye.

Frank—How well I understand that; I see now that there might be other considerations connected with the subject, and I long for an opportunity to decide by practice.

Father—And as I consider it a question of the greatest consequence, we will lose no time in making *the experiment*, on the breaking up of the frost.

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Frank—Well, Father, here is a fine day, and we are quite ready; which plough shall we commence with!

Father—Put the horses to the single wheel patent plough, invented by a person named *Plenty*, which is in very general use in many of the counties in England. Do you know the meaning of the term *patent?*

Frank—Perhaps not, exactly.

Father—The inventor of this plough thinks so well of its merits, that he has asked of the government to secure to himself the making of them for a certain number of years, and the government issues an order, that no other person shall presume to make them for a time agreed upon, under a severe penalty—this is granting a patent, which in England costs about one hundred pounds sterling (five hundred dollars.) But now for our ploughing match.

> The weather fine, the season now,
> Drive on, my boy, "God speed the plough."

Well Frank, what think you!

Frank—I shall be careful how I say again, what I think. It appears, however, to be a heavy instrument with which to turn a furrow eight inches wide and five inches deep, which is as much as it will do; to be sure it goes straight, and makes what is called good work, but after all it does not turn the land *over*, it merely sets it on edge, or a little more, and passes on.

Father—But now for your criterion of a good plough, do you not think it follows the horses easily?

Frank—I now understand why you said, the object with us ought to be, to ascertain which is the plough best suited for the purpose of cultivating the soil, and that you thought this was not the object with some—those for instance, who are more careful of

the shinning coats of their horses, than with the proper stirring of the soil.

Father—As there is so little resistance against the mould-plate, in consequence of the small furrow which we are compelled to carry, and the manner in which it leaves it, setting it on edge, or nearly so, and not turning it over, I am inclined to believe that to this circumstance is to be attributed a part at least of its good name; to be sure the length of the beam and handles give great facilities for guiding it straight and steadily, but do you remark the very narrow furrow which it leaves, in which the furrow horse has to walk, and how he treads down the land side of it with two of his feet, because there is not room for him to walk in the furrow? neither is there room for the furrow slice when it is turned, for it lies so nearly on edge as to leave a seam or channel, from whence the weeds will spring with redoubled vigor, if the land is left even for a short time unploughed. This plough is altogether unfit for the use of those who have an interest in the soil, and the unlevel state in which it leaves the bottom of the furrow in some places, called *raftering*, is decisive proof of inefficiency.

We will now try the short and light American plough—but are you aware that the swing plough is managed in direct opposition to that with one or two wheels? for if I wish to go deeper I *lift up* the handles, whilst to cause the plough with wheels to take a deeper furrow, it is necessary to *press down* the handles.

Frank—I was just remarking that you appear sometimes to press upon the handles, which I have often heard you say is improper, as it makes nearly a horse draft difference in the working of a plough, and that I suppose cannot be good at any rate; indeed I never see you do so while using a plough with a wheel.

Father—As there is no wheel on which the beam can rest, the plough is liable to drop a little when the land is soft or wet, and this sends the point of the share so deep into the earth, that unless I were to raise it by pressing upon the handles, the plough would sink so deep that the utmost exertion of the horses would not be sufficient to move it. On the other hand, if the land is hard or stony, it is necessary to lift up the handles to send the point deeper into the soil, and with those ploughs that are short and light, *so high*, that the mould-plate is often raised so much as to be out of its proper position for turning the furrow properly over. And hence it is, that land which has been turned with such a plough, is often found to be less level, and to be full of *baulks*, or parts that are left unploughed, than that which has been worked with a wheel plough. This constant tendency to rise and sink is exceedingly troublesome to the ploughman, and distressing to the horses, for they are very liable to be galled by the collar—do you see how tenderly they seem to advance in this hard spot, and how the traces shake and jar them?

Frank—Yes I do, and now that I take the trace in my hand, I feel it too.

Father—Nothing could be better adapted to the purpose for which these short and light ploughs were designed; with a short beam and handles, as well as a short bed or waist, they were admirably fitted for turning the earth amongst stumps, and stones, and roots on fresh cleared lands, where, in the hands of an expert ploughman, it takes place of spade, mattock and pick-axe, spuddling the earth from amongst them with the greatest ingenuity; but in cleared land, when to go a *leetle* deeper and to turn the furrow well up and over, is the soul of good tillage, they are altogether unsuitable; for, in consequence of their lightness and shortness they offer no resistance to a thick furrow slice, but, like an unfaithful servant, are always slipping out of their work, leaving it half done. The apology which is sometimes offered, that you can plough nearer the ends and leave a narrower headland, is the most futile that can be conceived, for the headlands should be wide and well defined, thrown up high and round, with the furrow at the head of the ridges, wide and deep, serving the purpose of a water furrow to receive and carry off the drainings of the ridges in wet weather. The shortness of the body of this plough is the cause of its rising and falling so abruptly and so readily, fitting it peculiarly for its working amongst stumps, but for the same reason, unfitting it for every other purpose—they are excellent therefore, but not for general use.

Now, we will try our new plough, which is perhaps, the most perfect for many purposes that can well be imagined. It is either a swing or a wheel plough, but in nine cases out of ten, the wheel can be dispensed with, its length and weight being sufficient to keep it at the depth required, provided the rack at the head is properly adjusted; the objection to its weight is groundless, for in very light land that is of no importance, and in a heavy soil it is necessary, to form proper resistance to a thick and heavy furrow slice; for here, a light plough would *rise up and walk off*.—While, therefore, the length of the body of this plough keeps it steady to its work, every little obstacle is apt to throw a light plough out of it; and its constant tendency to rise, compels the ploughman, as has already been observed, to raise the handles so high to counteract it, as either to lift it out of the ground altogether, or to send the point so deep as to require an immediate and sudden rever-

sion by pressing upon the handles—thus it is ever on the poize, like a pair of scales, demanding of the ploughman incessant care and labor, and performing badly at last.

Frank—How finely the noble mould-plate turns the furrow slice over, burying the weeds, so that there is not one remaining on the surface, and breaking up the land, so as scarcely to require harrowing.

Father—True—but this very excellent quality shows that it is not well adapted to the purpose of cutting across weedy fallows, preparatory to harrowing or dragging; in that operation, the furrow slice ought not to be turned so completely over, for if it is, the harrow cannot act upon so level a surface, so as to drag over the clods to be crushed by the roller; the furrow should in this case be set more on edge, but that you see cannot be done by this plough; it requires one of a different form, with less curve in the mould-plate. Still, however, every plough should throw out a furrow wide enough to permit the furrow horse to walk in it with ease, and without which, it is not possible to plough clean.

Frank—Yes, I have always heard you say, he is not a good gardener who does not keep a good, wide, open trench in digging; and I can now understand the advantage of a wide and clean furrow in ploughing.

Father—Nor is the plough which we are now using suitable for hard or stony land; its wide wing prevents its entering a hard soil, and during a hot and dry season, it would be useless for a considerable portion of the summer; nor is it, for this and some other reasons, the best for turning lay land, preparatory for immediate sowing; on such land the furrow should be narrow, but with a wing so wide, it would not be possible to carry a narrow furrow, so as to place it in a proper position for seeding. A person in England has invented a plough, which for this work is perhaps superior to all others; it is furnished with three spare shares of different widths, the narrowest being used for this purpose, and it is said, a man has turned a furrow of two hundred and fifty yards in length so straight, that, by placing the head in it, a person might see from one end to the other without any obstruction. By some peculiar process at the time of casting, the points and wings of these shares are case-hardened on their *underside*, so that they point and sharpen themselves; the upper surface being soft, wears away by working, leaving the under part sharp as a knife. It is said, they are casted on a bed of sand, sprinkled over with powdered charcoal, which converts the part coming in contact with it, into steel. With a narrow share, this plough will penetrate a hard soil, when no other that I have ever seen, would even *look at it*; but its great length of waist, with its long beam and handles, fit it for turning up a *turnpike*. It has the quality too, of turning completely the furrow slice, leaving it impenetrable to the harrow—it is therefore unsuitable for fallowing land that is full of root weeds.

So that we ought not to expect to find any one plough with the different qualities of all combined: but every intelligent and industrious man should keep a set of ploughs for various purposes. It is the most important of all implements, and is deserving our most serious regard; but let it be repeated, there is one qualification which is necessary in all, at all times, and in all places, namely, that a furrow shall be left sufficiently wide for the horse to walk in, and to receive the next furrow slice, be that intended to lie at an angle of forty-five degrees or at any other.

Frank—At an angle of forty-five degrees! pray what is that? and how am I to know when it lies at an angle of forty-five degrees?

Father—I will show you—the circumference of a globe, let the size be large or small, is denominated three hundred and sixty degrees. Now, if we cut a circle of paper and call the circumference three hundred and sixty degrees; by folding in half, there will then be just half the number of degrees remaining, namely, one hundred and eighty; if we fold this again, we shall find the number of degrees remaining to be ninety; another folding will give us a wedge-shaped piece of paper which, if it be placed on one of its straight sides on a flat surface, will show you exactly what is an angle of forty-five degrees, if you cast your eye along the upper straight edge, beginning at the point.

Frank—I understand this exactly.

Father—One very serious objection to the general mode of ploughing in this country arises from the hurry with which this most important of all operations is performed; it is a cause of boasting, to be able to turn an acre of land in the shortest possible time, without, I fear, any regard to the manner in which it is done; to this haste is to be, in great part, attributed the irregularities observable at the beginning of the furrows in almost every field we witness, occasioned by the too sudden elevation or depression of a plough of light and short construction, and a desire to make the headlands as narrow as possible; and I have never seen a ploughman turn about to take up that portion of land which has thus been missed—as is always done when proper time and attention are paid to the work—trusting to the next turn when he might take a deeper and larger furrow, and with it cover the defect, thus leaving a solid portion of the earth underneath a furrow that lies too high, but which he thinks might

be levelled by cross harrowing. I once knew a faithless servant of this sort, who got *served out* in a very unexpected way while practising this sleight of hand: his employer had witnessed what he had been doing from the other side of the fence, and on hearing the fellow exclaim as he passed one of these *baulks*, "that's covered," sprang over, and hitting him over the head with his stick, by which his hat was knocked off, picked it up, and clapping it on him, exclaimed also, "and that's covered!"

But a cause for this hurry in ploughing might sometimes be traced to the weakness of the horses, who, unless it be done by a sudden exertion of their whole strength, are not able to bear a protracted and steady strain, competent to the task: in none of the operations on a farm is it so necessary to have sufficient team power as in ploughing; with a weak team, not even the best ploughman can make good work, nor can land be stirred to a sufficient depth to bring a crop to maturity. It might not, perhaps, be too much to say, many crops depend as much for support on the subsoil, as on the surface, especially in a time of drought; and it is quite sufficient if an acre of land can, under ordinary circumstances, be ploughed in a day's work of eight hours; and as that has been a task which I calculate we have accomplished, we will now quit.

Causes of Seeds not Germinating.

We have known and heard of considerable loss and disappointment from seeds, particularly onion seeds, not growing. We have thought and inquired in reference to the cause, and the result of our cogitation and inquiries may be thus stated:

Without a certain degree of moisture, seeds will not germinate. On dry, sandy soils, and in a dry season, it seems highly probable, then, that seeds may be deprived of the requisite degree of moisture: perhaps receiving just as much as will mould them and destroy their vitality, or being so near the surface as to be injured by the sun's heat and light.

But the seeds may have germinated, and commenced to send out their roots and stem stalks, and yet be destroyed. If the soil is not pressed closely to the seeds, and very dry weather occurs just at this period of the process of germination, the root being too distant from the soil, and too feeble to draw any supply of moisture, the liquid food of the plant contained in the fermented seed may be dried up, and the life thus destroyed.

If you would avoid disappointment and loss from seeds failing to grow, the preventive process is indicated by a knowledge of the causes most frequently productive of this result, which we think are those stated above. If you sprout your seeds before putting them into the ground, you will preserve them from the first cause of failure, but if you pulverize your soil thoroughly and press in this state with a hoe, spade, or roller, upon the seeds thus sprouted, the root stem will soon and surely derive sufficient moisture from the soil.

In a few instances I have found my neighbours blaming the seeds as useless, particularly of onions, carrots, and parsneps, when I have obtained a little of the seed and found it to sprout quite well. You may easily save yourselves from such reflections, or from the temptation to blame others, by steeping the suspected seed in warm or tepid water, from six to twenty-four hours, according to the size and hardness of the seeds, and then setting it away in a warmish place for a day or two. If good it will sprout in this time; if kept warm in a darkish place, and it does not sprout in this time, the seed is faulty.

In connexion with this subject, I may state that several circumstances incline me to the belief that corn which has been sprouted—no matter in what steep—is safe from the ravages of the red or wire worm. It has been fashionable to steep in strong solution of copperas, and to ascribe the safety of the seed in this state, not to the change which fermentation has produced in the germ or chit which is usually first attacked, but to the change in the taste from the copperas. We have known corn soaked in simple water—in water alone—to escape from the attacks of the worm as well as that soaked in the copperas steep. Until this matter is made more certain, however, I would hold it bad husbandry to neglect the copperas, as, in addition to the change produced by heat and moisture, we have also the disagreeable taste communicated by the salt.—*Cultivator.*

Improvement of the Soil by Animal and Vegetable Manures.

The best way of applying the bone-dust and horn-shavings and horn-piths, that we have tried, is to keep them dry till a short time before they are wanted—then to mix them, in the proportion of a bushel to a load, with unfermented yard or stable dung, to cart to the field, spread broadcast, and immediately cover the whole with the plough. The action of the dung brings on a decomposition of the animal matter, without previous preparation, and its benefits are imparted to the coming crop. We estimate fifteen loads of manure, thus charged with bone or horn, equal to twenty-five loads without it.

Poudrette is the contents of privies, dried, and rendered as inodorous and inoffensive, by

chemical process, as the common earths. This is another species of concentrated manure nearly as powerful as bone-dust; more operative upon a first crop, but less durable in its effects. It is the most efficient, in its immediate effects, of any manure we have tried. It is applied at the rate of forty bushels or less to the acre, upon all arable crops, to be sown broadcast, superficially covered, or placed in the hill or drill of hoed crops. It has long been used about Paris, has become an article of commerce, and is transported to every part of the interior. Manufactories of poudrette have been established in the vicinity of New York, and the demand for the article increases with the supply. Like manufactories will, no doubt, ere long be established near all our large cities; and thus, what would be otherwise a nuisance, and the indirect cause of disease and death, will be converted into vegetable food, and become a source of comfort and of wealth. Let not the sensitive start at this suggestion—the choicest delicacies of the table come from a nauseous mass of animal and vegetable putrefaction!

Urette is animal urine, absorbed and rendered dry by mixture with calcareous earth. It possesses the like fertilizing virtues as poudrette, and is applied in a similar way, and with very similar effect.

Woollen rags, and the flocks and sweepings of woollen factories, constitute a highly-concentrated manure, and are procured in considerable quantities at the woollen mills.

Fish are converted into a valuable manure, and are a main dependance of fertility on some parts of Long Island, and other districts near the margin of the sea. These are most economically used in the form of a compost—the earth with which they are blended absorbing the volatile parts, and permitting a more equal distribution of the fertilizing matters upon the soil.

Sea-weed, or sea-drift, which is so often thrown upon the beach in immense quantities during a storm, is beneficially employed as a manure, not only on account of its vegetable, but of its saline properties. It is employed in composts, in litter for cattle-yards, or is ploughed in in a green state.

Peat earth, or swamp muck, is vegetable food, in an insoluble state, and requires only such a chemical change as shall render it soluble, to convert it into active manure. This change may be effected in the cattle-yard, in the compost heap, or by admixture with alkaline substances, as lime, ashes, &c.

This earth is generally insoluble in the places where it is deposited, especially when saturated with water. It sometimes is rendered soluble by thorough draining, and by the admixture of sand or loam, and always by being brought in contact with fermenting animal or vegetable matters.—*Buel's Farmer's Companion.*

Kitchen Garden.

A vegetable garden should be in a warm situation; inclosed by a close board fence or stone wall, which serves to protect it from cold winds, to concentrate the rays of the sun, and to secure shade. The shape should be a parallelogram, or oblong, and the beds of the same shape, to facilitate the use of the hand cultivator. The north and west sides should be the lightest and warmest soil. Unless the fence is sufficiently high to prevent fowls from flying over, it would add greatly to the certainty of realizing the productions of the garden to have it located at a distance from the barn and hen roost.

Some variety in the soil is desirable—also, varying from wet to dry, preserving, however, the general characteristic of a sandy loam, deep, rich, well worked, and retentive of moisture.

A soil too sandy is improved by the application of cow manure, lime, and clay; and one too adhesive, by horse manure, lime, and sand. To give permanency to the fertility of a soil, and to secure healthy vegetation, mineral manures should be occasionally applied.

The time of putting the seed in the ground depends on the season, the nature of the plants, and their acquired or established habits, or qualities. Some seasons are two or three weeks earlier than others. Some vegetables will not do well unless they have opportunity to make progress by the first vernal warmth; others become sickly if planted early. To preserve the qualities of particular varieties, much attention should be paid to the history of their culture. Corn, for instance, that ripens in less than a hundred days by planting the last of May, or first of June, should not be planted earlier; this would be the same as transfering from a warm to a cold climate, tending to alter the habits of the plants, and to increase the number of days in ripening. Late planting and rapid maturity are objects of improvement. They both increase the certainty of crops, lesson labour, and probably impoverish the soil less.

Those seeds ripening first and having other desirable qualities, should be carefully gathered. The certainty and continuance of the vegetative power of seeds depend greatly on being fully ripe, well secured, and preserved from too much confinement, heat, and dampness. Some, however, lose their vegetative properties much sooner than others.

Parsnep, rhubarb, and other very thin and

scaly seeds are not to be depended on the second year.

Beans, capsicum, carrot, cress, leek, nasturtium, okra, onion, salsafy, scorzonera, and small herb seeds should not generally be trusted the third year.

Artichoke, asparagus, corn, egg-plant, endive, fetticus, lettuce, mustard, parsley, peas, skirret, and spinage, often fail after the third year.

Broccoli, cauliflower, cabbage, celery, kale, radish, and turnep will vegetate well four or five years.

Beet, cucumber, gourd, melon, pumpkin, and squash—also, burnet, chervil, and sorrel, have been known to vegetate freely five to ten and more years.

Some seeds should not be sown the same season they are grown. There is too much of a tendency in biennials to go to seed; and in annuals to vines and unfruitfulness. The turnep, for instance, will not bottom well unless the seed is fully and thoroughly ripened.

Plants that are nearly allied, melons and cucumbers for instance, should be planted at a distance from each other to prevent mixture in the seed through the pollen.

The ground for taprooted vegetables is generally manured the previous year; or with rotten dung well and deeply spaded some weeks before putting in the seed. For vegetables of spreading roots the manure may be applied nearer the surface, and at the time of putting in the seed.

A rotation of crops should be observed in garden as well as field culture. As a general rule, taprooted crops should succeed those of spreading roots; with large and luxuriant leaves, those of less size—requiring much tillage, those needing but little culture. Deficiency in practical and scientific information relative to the proper succession of crops, renders it advisable to sow red clover on alternate portions of the garden, even if it is ploughed or spaded in the same season. The sowing may be at the last hoeing of some crops.

All plants should be kept perfectly free from weeds, any receive frequent hoeings. The dryer the ground the more and deeper it should be stirred. Deep hoeing is said to be injurious to taprooted vegetables. It is advisable not to hoe the melon and cucumber families when they are much wet with dew. In hoeing, the earth should be drawn up around the plants but little.

As many crops as possible, without injury to each other, should, during the season, be obtained from every bed. Manure and labour are thus economised.

Some kinds of vegetables, as soon as they appear above ground, are very liable to be cut off by insects. The best preventive is to roll the ground immediately after sowing. This should always be done, unless the ground is too wet. The insects are thus deprived of shelter behind the lumps of earth—are more exposed to winds, storms, and extremes of heat and cold. Small chickens, turkies, and ducks, the mothers of which are confined in coops, will destroy many insects in a garden. A mixture of dry wood-ashes, lime, and gypsum put into the hills or drills, and covered with a little soil before dropping the seed, afford protection to the roots from these insects that prey on these parts of plants. Infusions of waste tobacco, lime-ashes, soot, cow-dung, elder, and some other leaves will, when moderately sprinkled over the beds, often drive off insects. Grubs may be destroyed by searching for them; and those insects that adhere to the leaves, may be destroyed with the leaves. Slugs are said to be enticed by slices of turneps on the beds, and early in the morning may be killed. Blazing fires in the garden will, early in the evening, attract and destroy many insects in the winged or butterfly state.

Most of our culinary plants are of foreign origin, and consequently require an adaptation of soil and location. Many of them are either natives of Great Britian, or have become acclimated in that country, whence we obtain the large portion of the seed sown. These circumstances render a comparison of the climates of this and that country of some moment. The growing season of England in particular is long, not subject to extremes of heat and cold; moist and cloudy atmosphere predominating. In the Northern States the vegetative season is shorter; the thermometrical extremes greater; dry scorching sun forcing out the moisture of the soil, and producing excessive perspiration; hence a soil very retentive of moisture would seem congenial to most of our garden products. When deficient in this respect recourse should be to clay, cow-manure, and other manures having a strong affinity for water. A north and north-west aspect also tends to render our climate more congenial to many vegetables, especially if the garden is enclosed by a board fence, or on the north and east by evergreens that render violent storms, and cold and drying winds less injurious.—*Rural Library.*

As many more can discover that a man is richer than themselves, superiority of understanding is not so readily acknowledged, as that of fortune; nor is that of haughtiness, which the consciousness of great abilities incites, borne with the same submission as the tyranny of affluence.

For the Farmers' Cabinet.

Kitchen Garden.

Did you ever see such a fine, nice, clean garden in all your life?

My mother always loved a good garden, and so do I. I never yet saw a person enter a good, well cultivated garden, free from weeds, and where the vegetables and plants were in a healthy, flourishing condition but what was pleased and gratified. Now is the season for entering on the duties of gardening, and be sure and work it right in the beginning; for a good beginning is important in all things, and in none more so than in commencing the operations of the kitchen garden in the spring. I hope the boys and girls will be alive to the importance of having an abundant supply of the best kinds of vegetables at the earliest periods which they are attainable. In order to accomplish this, the very best seeds of various kinds must be obtained; neither plant or sow any that are not first rate, and the best plan that I know of, for procuring them, is to apply to G. M. Coates, No. 49 Market street, or to Landreth's,* Chestnut street, Philadelphia; both of whom have acquired a high reputation for selling the purest and best kinds; and the best evidence of it is, that the gardeners who supply the City of Philadelphia with such fine vegetables generally procure their seeds of them. The quantity necessary for an ordinary garden of all the various kinds, cost but a small sum. Dig your ground deep, and manure it well; see that the soil is thoroughly pulverized. Stint neither the manure nor the labour necessary to bring the ground into the finest tilth, or there will be cause for repentance before the season is over. Bridgeman's Young Gardener's Assistant is a valuable little work, and may be procured at the seed stores; it will instruct and enlighten the young folks on the subject of raising plants and vegetables in the best manner, and there is no danger of its doing injury to their seniors, though they may think book gardening may be dispensed with, as they have managed to get along so far without it. After the ground has been well manured, and thoroughly dug up to a proper depth and completely pulverised, and your seeds sown in the best manner, you may have a little respite from your labours; and I shall postpone telling what is next to be done to keep things in a right fix, for a future number of the Cabinet.

THOMAS.

* We agree with our correspondent that those gentlemen have established a well earned reputation as Seedsmen; and deserve, as they no doubt are receiving, a very extensive patronage. We also recommend to the favourable attention of our readers the establishments of Messrs. HIRST & DREER, Chestnut street, and Mr. MAUPEY, South Fifth street, Mr. D. O. PROUTY, Agricultural Warehouse and Seed Store, No. 87 North Second street. At any of these establishments, purchasers can depend on the seeds being what they are recommended; we have heard several gardeners and others who purchased their seeds at the latter place last season, express their unqualified approbation of the good qualities of the seeds. We perceive by the Catalogue of Mr. Prouty, that a fresh and large assortment has just been received.

For the Farmers' Cabinet.

Preserving Manures, &c.

Mr. EDITOR,—The subject which I have chosen for the present communication, has so frequently occupied your columns, that if not for its superior importance, would demand an apology for again introducing it to your notice. But I consider any language that I can use to enforce the advantage of preserving and applying manures to the practical farmer as altogether superfluous. But while all agree that manure when applied to the soil, is the most efficient supporter of vegetation, many diversified opinions exist as to the most economical method of preserving it, to the best time of applying, and whether to apply it to the surface as a top dressing, or to incorporate it immediately with the soil. As there are many different kinds of manure, I intend to restrict my remarks to the most abundant variety, viz. barn-yard manure.

So much as has been written on this matter, and reformation on this branch of husbandry so often urged, comparatively little has been yet done to correct the existing errors and prejudices. Some farmers allow their stable manure to collect in large masses, heat being produced, fermentation takes place rapidly, and the gaseous materials are evolved; the most important of these are ammonia and carbonic acid, both of which substances impart nourishing principles to plants. And the manure not being removed in the spring, but being allowed to remain in the yards until autumn to furnish a dressing for the lands destined for wheat, the frequent rains falling during the summer wash away all the soluble particles that exist in the dunghill, and leave a dry almost worthless residuum, totally unfitted in such a state for the food of plants. By the organization of plants, their food is required to be presented to them in a state of solution, or in a minute state of division, combined with water. Consequently manure is valuable for nourishing vegetables, only so far as it is soluble—or the insoluble capable of being decomposed, and forming compounds that are soluble. By this statement of the food of plants, it will be perceived that manures lying unprotected from air and water during summer must lose much of its

better parts. The principal causes that operate to decrease the quantity, and impair the quality of barn-yard manure, are water, heat and air; consequently, the farmer would increase his wealth much by protecting his manure as much as is in his power from the atmosphere.

I have seen it stated in some one of the agricultural works, I think the Complete Farmer, that the value in nutritious principles of the solid and liquid manures bears about the proportion of six to seven, that the urine of cattle is really worth more than the solid manure—much of which is usually lost to most farmers; for Davy tells us that by putrefaction most of its active nutritive salts are disengaged; but beside this, few barn-yards are so constructed as to contain any of the liquid products of the stables. In France and Flanders, and particularly in the latter, where the soil was formerly very unproductive, the effects of urine and other liquid manures has been truly surprising. In those countries they take particular care to have the floors of their stables so constructed as to carry off all the urine to a vat, or reservoir, adapted for the purpose, and either apply it in its liquid state, or mix with it some absorbent materials, and apply it as other manures. Now I think it would be well worthy the attention of those farmers who have not already adopted some method for preserving the stale of their cattle, to turn their attention to this matter, to examine and to experiment for themselves, by which means if they are sceptical, they may satisfy themselves of the efficiency of this kind of manure.

Yours, &c., P.

Radnor, Pa., Feb. 21st.

For the Farmers' Cabinet.

Quince Trees.

Those who love good fruit should aid in its cultivation.

The cultivation of the quince is much neglected, though it may be justly ranked among our most valuable fruits. For preserves it has long maintained a distinguished rank, and the fruit either in a green or dried state, is not surpassed by any other article for communicating a pleasant and agreeable flavour to pies made of apples. It is easily propagated by layers, and also by cuttings, and any approved kinds may be perpetuated by grafting in the usual manner.

It produces the finest, fairest fruit when planted in a soft, moist soil, in a rather shady or sheltered situation. It keeps well if properly managed, and always sells for a very high price; the markets never being overstocked with them, as is the case with many other fruits in plentiful seasons.

The quince derives its name of Cydonia, from the town of Cydon, in Isle of Crete, whence it was originally brought. There are four kinds of the quince; the pear quince, from the resemblance of its shape; the apple quince; the Portugal quince, which is less harsh and more juicy than the two preceding kinds; and the eatable quince, which is less astringent and milder than either of the other kinds enumerated. The trees being small, they can be planted ten or twelve feet apart along fences, or in places where they won't interfere with other trees, or the business of agriculture.

It is hoped that the present season will not be permitted to pass over without the cultivation of this valuable fruit being considerably extended among our farmers and gardeners. Put some cuttings in a suitable soil and situation, and see how they will grow and flourish; this would be an interesting amusement for the boys and girls who love good pies, and would occupy but a few minutes for their time.

Philip.

For the Farmers' Cabinet.

Feed the Hungry.

Free trade enriches all.

The following extract from the Annual Report of the Camden and Amboy Rail Road and Transportation Company, will furnish some information to those engaged in agriculture and horticulture, of the benefits derived from rail roads in carrying produce to distant markets at a cheap and rapid rate.

"Two years since, at the request of some market people, in New Jersey, a line called the Pea Line, with two cars, was occasionally started from Camden, (opposite Philadelphia,) to New York, with no other view or expectation than the accommodation of a very useful and respectable class of men. This line has steadily increased, until it has become profitable beyond all expectation. During the past year, it has been running daily, sometimes taking with it as many as sixteen cars, laden at the appropriate season with peas, peaches, potatoes, asparagus, cabbages, live stock, and upon one occasion, (as incredible as it may seem,) thirty tons of green corn!"

The above line of rail road cars has been the means of carrying from the Philadelphia market to that of New York, weekly, tons of the finest Pennsylvania butter, myriads of eggs, and countless quantities of veal, lamb, mutton, small pork, and poultry, to feed the gourmands of Gotham, and make their hearts glad. This process tends to equalize prices in the two markets, and to benefit both, for though the tendency of it is to raise prices in Philadelphia, yet her citizens are sufficiently well fed, and the increased demand produces an

increased supply, for our thrifty agriculturists are unwilling to permit the demand to outstrip their industry and ingenuity in keeping the supply equal to it. We wish success to the Pea Line in all future time, and trust that the sons and daughters of Gotham will welcome its daily arrival as heretofore.

PETER.

For the Farmers' Cabinet.

Sugar Beets and Preserving the Seed.

FRIEND LIBBY:—I am sorry to find that "J. K." in his pamphlet, on the cultivation of the beet, has let slip the opportunity of urging upon his readers, the extreme care which should be exercised in preparing and planting out the roots designed for the production of seed. In describing the other stages of the cultivation, he has been unnecessarily minute, but in this operation—by far the most important—his remissness has been remarkable, not to say culpable. In his instructions for harvesting the crop, he says, "The person who pulls the roots should cut off the *tops* with a knife," without being particularly careful to say, "Those, intended for planting for seed, should have the *leaves only* removed, for if the top is cut off, the root is totally incapacitated from producing seed, as it is the leading shoot, which is destined to perform that office." And I could point out those, who committed the error which he recommends, the last year, and could obtain no seed from the finest selected roots.

But this is not all—he omits the necessary caution, to plant the roots intended for seed, in some isolated, distant, and open spot on the farm, as far removed as possible from the contagion which is sure to follow, if they are planted in the neighbourhood of the garden beet, or that vile trash the Mangel Wurtzel, or even the other varieties of the sugar beet, which might be in blossom at the same time; and if "J. K." has been accustomed to raise seed without regard to this caution, it is no wonder that he finds "The seed of the white plant producing yellow and red roots." Nor would the plan which he proposes to adopt, for checking this propensity—namely, to change the seed from sand to clay, be of any avail, without this caution; and that he has admitted, by notifying the person who has sown beets *with success*, on the same spot, fifteen years in succession; for if this man, had by this means mingled his crop, he could not be said to have cultivated it for that time *with success*. And I have strong reason to doubt, that this success was owing to the change in the nature of the manure, for if it were according to his own showing, the change of *manure*, is as efficient as the change of *seed*. But all this goes to show, that "J. K." has obtained his information from books and hearsay, and by these means, has been enabled to draw up a pamphlet, unnecessarily minute in many particulars, for the use of practical agriculturists, while, in the two grand essentials above pointed out, he is totally silent.

He observes "when the object is to make sugar, care should be taken to have seed that will produce white root," but he ought to have added, "And the white or true Silesian is found to contain the saccharine matter, in proportion as ten or twelve to two, in favor of that particular species." Now as the value of the root in stock-feeding is in exact proportion to the quantity of saccharine matter which it contains—and of this "J. K." ought to be aware—that particular variety, for every purpose, should alone be cultivated.

THY SUBSCRIBER.

20th 2nd mo. 1840.

For the Farmers' Cabinet.

Causes of Degeneracy in Plants and Animals.

"And God said, let the earth bring forth the living creatures after his kind, cattle and creeping thing, and beast of the earth after his kind; and it was so."

The instinct of all animals prompts them to select the sweetest, the most nutritious and the best pasturage, leaving that which is coarse and sour, and particularly avoiding every thing which comes under the denomination of weeds. A constant repetition of this procedure prevents the best description of grasses from spreading and extending themselves by means of their seeds which are prevented from ripening, while the weeds and inferior kinds of plants not offering a sufficient temptation to prompt their destruction, grow, flourish and ripen their seeds, which are annually dispersed, and give rise to new generations of their progeny. This is the cause of the running out of the finer and better kinds of herbage, and of their places being so copiously supplied by pernicious and worthless intruders. Many people entertain a very erroneous opinion on this subject, and suppose that *naturally*, there is a constant tendency to deterioration, from good to bad, and from bad to that which is worse; when the fact is, that the good is carefully selected and consumed, and the bad suffered to remain unmolested to propagate their kind. One of the best remedies for this state of things is to sow grass seed thick and of various kinds on the same field, so as not to leave any unnecessary room for unwelcome guests; keep your table full of bidden guests, and fewer intruders will thrust themselves in amongst them. If the weeds were cut off or extirpated as they grow up and not permitted to seed, and the valuable grass protected so that it could propagate its kind, it would be found to maintain the

ascendancy so long as it could procure nutriment to sustain it.

Many farmers are constantly pursuing the same system with their stock, which their stock is pursuing with their grass; selecting out the best for consumption or sale, and propagating from the more inferior or worthless specimens that remain; and the result is the same; a constant down hill progress, from bad to that which is worse; and hence they very unsagely conclude that there is in the *natural* progress of the animal and vegetable kingdoms a constant and invariable tendency to degeneracy. "Look nature through" and you will see that, like begets like, and if the desire is to improve stock, always propagate from the best and most perfect specimens; those that arrive at early maturity, or take on fat most rapidly, or acquire the greatest value in the shortest time, being generally to be preferred. There is no complaint more common than the degeneracy of sheep and swine, particularly among farmers who reside within the range of a good market; the reason is obvious; the temptation to present gain is too powerful to be resisted, and away go the most thrifty and healthy pigs and lambs to market, leaving the scrubs and weaklings at home to propagate their kind, and this agreeably to an invariable law of nature they seldom fail to do. It is in vain that farmers incur expense and trouble to procure fine stock unless they are careful to keep it up, by uniformly propagating from the best and most perfect specimens. How often do we hear complaints of the natural tendency of stock to degenerate, when the fault lies, not with mother nature, but with the very individual who makes the complaint. There are few neighbourhoods within fifty miles of Philadelphia, but what, within the last thirty years, there has been at several different times as complete and perfect breeds of sheep and hogs as could be found in any part of the world; and yet they are constantly running out and degenerating, not through nature's fault but our own; in killing off those that will sell for the best price. The same causes always produce the same effects, and so long as the cause of this pretended deterioration is permitted to exist, just so long will the effect continue to be produced.

During the long and sanguinary wars on the continent of Europe, the men under a given standard of longitude were excluded from the army; but the prodigious consumption of men under the system pursued by Napoleon for universal conquest, obliged him to shorten from time to time the standard height of his soldiers; so that those left at home to till the earth, and keep up the stock were of diminutive stature. The consequence of this system has been that a new race has been produced of less than the medium height, and an American in travelling through France is at once struck with the shortness of stature of the inhabitants, when compared with his own countrymen, who have not had the taller ones culled out for human slaughter and the dwarfs left to propagate a new race of Lilliputians. The laws of nature are unchangeable, and the same set of principles in regard to propagation have relation to human beings and the brute creation; from bad comes bad, from good, good; according as thou sowest, so shalt thou reap.

Jacob.

For the Farmers' Cabinet.

Manure, and the ill effects of Dirty Stables.

Pure air conduces to health.

The following judicious remarks on the preservation of the urine of animals have been extracted from Hayward's Agriculture, and may be acceptable and useful to the readers of the Cabinet.

"The superior effect of putting the manure on the land as it is produced, as stated by Sir H. Davy to be the case with Mr. Coke, may be accounted for, as arising from the urine absorbed by the litter, which, if left in the usual way, spread in an open yard, would have been wasted and lost."

To show the fertilizing effects of urine, Sir John Sinclair says, "every sort of urine contains the essential elements of vegetables in a state of solution. The urine of a horse, being so much lighter, would be more valuable than its dung, if both must be conveyed to any distance. The urine of six cows, or horses, will enrich a quantity of earth, sufficient to top-dress one acre of grass land; and as it would require four pounds worth of dung to perform the same operation; the urine of a cow, or horse, is worth about twelve shillings, ($3,00,) per annum, allowing eight shillings per acre as the expense of preparing the compost. The advantages of irrigating grass lands with cow urine almost exceeds belief. Mr. Harley, of Glasgow, (who keeps a large dairy in that town,) by using cow urine, cuts some small fields of grass six times; and the average of each cutting is fifteen inches in length."

In a note to the above, the author observes, that "whilst recommending the careful and effectual draining of stables, for the preservation of the urine, as the most valuable part of animal manure, I will also state a circumstance which cannot be thought unworthy of notice to agriculturists, which occurred to me, to show how necessary this is also to the health of animals.

"I took possession of some stables, with the horses that had been some time kept in them,

and, to my misfortune, in a very short time I found that the horses kept in those stables had been subject to the dreadful disease called the mad staggers for several years. Some horses had died, and the horses then there, and which had been for some time kept in the stables, were in wretched condition. Two fine fresh horses which were put into them, were within a few months seized with the mad staggers, and one of them literally killed himself by knocking his head about against the manger and stall; the other was saved by copious bleeding, and removed into a fresh stable, but was so reduced as to be lessened in value one-half. My neighbours advised the pulling down the stables, considering the disease infectious; but having, on going into the stables early in the morning, been almost suffocated and blinded by obnoxious gas, I examined the floor and drains, when I found the former to consist of large burr stones, laid on a stiff clay; and the floor sunk so low below the drain, as not to admit of the draining away of the urine. This struck me to be a sufficient cause to effect the brain of any animal confined in it, the same as it had the horses. I therefore had the floor taken up, relaid, and properly drained; and the walls and ceiling, manger, cribs, &c., washed with quick lime; and from that time for ten years, I never had a diseased horse."

The mad staggers is undoubtedly a violent inflammation of the brain of the horse, produced in all probability by inhaling noxious, acrid gases, such as are the product of foul stables; for we never see cases of this disease among horses who breathe a pure, uncontaminated atmosphere. Horses which are kept in confined stables in cities, where the manure and urine are deposited in cellars underneath them, are most subject to this disease. The remedy, or rather the mode of preventing the disease is so obvious, that every person who has charge of so valuable an animal as the horse, should be apprised of the importance of keeping a clean stable, so as to insure a pure atmosphere, that the lungs or brain may not suffer injury by inhaling ammoniacal gas, or spirit of hartshorn, which tend to produce irritation and inflammation of the fine, tender membranes, which line the nasal processes and the lungs of all animals.

The disease called hollow horn in cattle, is inflammation of the interior of the head and horns, which communicate with the nasal processes, and very probably proceeds from the same cause which produces mad staggers and glanders in horses; to wit, foul acrid gases, inhaled in sufficient quantities, and for a time sufficient to irritate the very delicate membranous structure of the interior of the head, so as to excite inflammation, and finally suppuration, mortification and death. This is rendered the more probable as horses and cows when stabled are generally enveloped in one common atmosphere, and the disease does not often show itself till the season is considerably advanced, when the foul malaria has had a long time to operate on the tender parts to which it is constantly applied while breathing. Milk cows are generally more closely confined than bulls or young cattle, and it is believed they are much the most frequent subjects of the disease. It is hoped this subject will claim the careful examination of all intelligent farmers, and it is desired that their observations may be recorded and published, whether they go to sustain the above theory or to destroy it. Of one thing we are all certain, that to breathe pure, uncontaminated air is more conducive to health, than to inhale that which is foul and irritating to the lungs. An occasional smell of a hartshorn bottle may not be disagreeable or unwholesome, if it is not too concentrated; but to be enveloped in an atmosphere of it for half our time, during the winter season, which is the case with a very large proportion of our horses and cattle, cannot be expected to promote the healthy action of the system, but on the contrary to produce disease and premature death.

A lazy, careless, thoughtless lout
Neglects to clean the stables out.

AGRICOLA.

For the Farmers' Cabinet.

The Way to Plant Trees.

Observe nature's plan and imitate her.

As the season for planting fruit trees is now near at hand, it would be well for all to recollect to dig the holes very wide; yea, much wider than the roots extend for the time being; remembering that during the season they will be expected to go in search of provender for the nourishment of the branches; and if the soil contiguous to the tender fibres of the roots be left firm and hard, they will not be able to travel very rapidly, and of course will glean but little nourishment, and will possibly become starvelings, or die before winter. Also be careful not to plant your trees deeper in the ground than old mother nature would do, if she performed the operation herself: she has been engaged in this kind of work ever since the days of Adam, and no doubt by this time has learned how to do it properly; imitate her example, look at some of her planting, and observe how deep she puts the roots in the ground. She don't go to work as if she was making post and rail fence, I can assure you, for I have watched her operations often. She knows

the ground is hard and cold, and often wet down below there a foot or two, and she keeps among the vegetable mould, nearer the surface, where sunshine, and the warm rains of summer help to prepare food adapted to the tender absorbing roots. Many a prime fruit tree has been lost by two deep planting; the roots die by degrees and communicate gangrene to the tree, which never enjoys perfect health and vigour, but gradually declines and dies prematurely, never producing perfectly developed fruit.

Pomus.

For the Farmers' Cabinet.

Wheat.

Mr. Editor,—"Wheat, in this country, ought never to be sown on a fallow."* The period to which the sowing of wheat on clover lay might be prolonged, without injury to the crop, is, in many situations, of great advantage; as is also the circumstance, that it might be commenced on such much earlier than on the fallows, without danger of suffering from the root rot, so much complained of, when sown on fallow before rain. This consideration is of double importance, for although it is exceedingly desirable that wheat should be sown early, that it might be strong before winter, yet, if such early sowing is impracticable, the late sown wheat on lay never suffers so much as it is apt to do on fallow, under the same circumstances; nor is it so liable to be affected by rust or mildew, which is almost sure to attack the late sown crops on fallows, unless the situation be extremely favourable

Tull says, "a wheat plant that is not planted early, sends out no root above the grain before the spring, and is therefore nourished all winter by a single thread proceeding from the grain up to the surface of the ground; and that is the reason why the late sown crops suffer so much from the wireworm and the slug; for when this thread is bitten off, the plant, having no other support, dies away; besides this, if the land is good and clean, about one-half the seed might be saved by early sowing." This single observation is worth the rent of a large farm.

B. C.

Edgemont, Delaware county, }
February 24th, 1840. }

A contented mind is a continual feast.

Be timely wise, rather than wise in time.

Business is the salt of life.

Be always at leisure to do good.

Bear your misfortunes with fortitude.

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* The late lamented Mr. Geo. Walker, of Holmesburg.

For the Farmers' Cabinet.

Origin of the name "Potato Oat."

A farmer's servant observed a remarkably fine stalk of oats growing in a crop of wheat which he was reaping in the year 1789. They were preserved, and sown the next year, when they produced three quarts of seed: the name was given them from an erroneous opinion that they were first found growing in a potato field. This was fifty years ago, but they still maintain their superiority, and are valued above all others; yet it is a fact, that the meal produced from them is not so large in quantity or so good in quality as that produced either from the Scotch or Welsh oats, even when grown in those countries, as any of your practical friends belonging to these countries can testify—pray let them speak to this fact through the pages of the Cabinet.

S. D.

Doylestown, February 24th, 1840.

For the Farmers' Cabinet.

Birds.

The great and the good protect, and the wicked and the vile destroy.

The season for the singing of birds having arrived, let us all unite in their preservation and protection. Let every parent discourse his children on the advantages derived from the feathered songsters in the economy of nature. Tell them of the millions of insects destroyed by a single pair of little birds, during the season of rearing their infant family; and the millions of millions of pernicious insects which would be the progeny of those thus destroyed if they were suffered to survive for a single year. Inform them of the quantities of grain and grass, and fruit which perish annually by the depredations of the insect tribe, and that the birds are the only antagonists which we can avail ourselves of for protection from such insidious invaders of our rights. Remove the smaller birds which keep the insect tribes in check, and the earth would soon become one great desert, uninhabitable by either man or beast, for the food designed by Providence for sustenance, would be wholly swallowed up or destroyed by the myriads of insects which would speedily cover its surface. Beasts of prey and other invaders of larger growth, skill and science can subdue or annihilate, but insects set all the boasted knowledge of mankind at defiance, and we have no protection from them but that which is furnished by our little friends the birds.

Now where is the boy, who knowing that his very existence depends on the industry and vigilance of birds, will be wicked enough to kill, and destroy, and persecute, and break down the habitations of his friends and protectors. Is there one to be found in this

Christian country, who would do this, if proper care was taken to instruct, and enlighten him on this very interesting and important subject! No, not one. Therefore, let parents and teachers be alive to this subject, give the rising generation suitable instruction, enlighten them, convince them of the wickedness, the inhumanity, the impolicy of destroying their best friends, and the great mischief will soon be stayed, and the birds will once more sing in peace and safety.

REBECCA.

For the Farmers' Cabinet.

A Letter from Peter Jones about Boys.

MR. CABINET:—A neighbour farmer who reads the Cabinet with a great deal of pleasure, and speaks highly of its merits, hopes your correspondents will continue to favour the public with a continuation of their favours. He says he is growing old and stiff, and is not able practically to carry out the many valuable suggestions contained in your monthly sheet. He has several boys, as he terms them, though they are all grown to man's estate; yet he insists on calling them boys, and he says, he is apprehensive they will continue to be boys all their days, yet he hopes they will be benefited by your paper. The fact is, Mr. Cabinet, these boys were not reared right, although they are pretty steady, moral young fellows, but they were permitted when young to fall into desultory, idle habits, working or letting it alone, as best suited their inclinations; the consequence is that having now become men in age and size, they are boys still, and boys likely to be, unless your Cabinet eloquence should arouse them out of their present state of apathy. They know well enough what is right, but they hate to do it; they will sometimes work pretty well for a short time, and then relapse suddenly into their old, idle, lazy habits, and let things take care of themselves. Now this is what I suppose, doctors call a constitutional or chronic complaint that takes time to cure. These are the sort of chaps that are constantly trying to get something for nothing; to achieve great ends with little means; or as a friend of mine observed, to bore an auger hole with a gimblet; which you know is not an easy matter, and requires a full grown man of very considerable abilities to accomplish it, with any kind of decency, so that it is hardly worth while for a common lazy scrub of a fellow to undertake so difficult an operation. Besides there has so many embarked in this mode of getting along through life of late, that the competition is so great, as to produce great discouragement in the operators of latter time.

Agricultural produce has of late in consequence of a concurrence of circumstances, united with too much legislation, and that of a vicious quality; become much reduced in price, so that it behoves farmers to look sharply about them, and see if they cannot make some improvements in their domestic arrangements, that will counterpoise the low price of the products of their farms. One of the first movements in this reformation, perhaps, ought to be that of more economy, particularly in that valuable commodity called time, "for time is money," as poor Richard said, about one hundred years ago; it having stood the test of a century and it is true still, showing in a remarkable manner the truth of the saying, that "truth is truth to the end of the world."

If people were taxed by the state to the amount of but one-tenth part of the time that is idled away or mis-spent, it would be deemed such an act of tyranny and oppression, that it would soon produce a revolution in the commonwealth; but voluntary taxes are cheerfully paid, whilst those that are imposed on us without our consent are grudgingly discharged.

Those who employ labourers to do work which ought to be performed by their own children, not only give away their money, but are doing a permanent injury to their own offspring; for every boy that is intended to be educated for a farmer, should be put through a regular course of *practical* instruction in every branch of business belonging to agricultural life adapted to his age and strength. There should be no selection of tit-bits for a favourite boy, if his best and permanent interests are truly regarded. There should be no entrance through the cabin windows, as sailors say; if a boy is intended for a seaman, a farmer, or for any other occupation, begin with him at the beginning, and put him through every part of the process thoroughly; if you spare, you spoil him. Many fine children are ruined for life, by the indulgence of foolish fathers or silly mothers, in the endeavour to protect them from what they consider the hardships incident to a life of industry, and yet they are willing to ascribe the result to any other cause than the true one.

Instruct a boy thoroughly and practically in any useful branch of business, implant in his mind a strong sense of religious obligation, instil into him the indispensable importance of industry and economy, and of the necessity of preserving himself free from every moral taint, and you may turn him out into the world without a cent in his pocket or a second shirt to his back, and he will succeed; he will establish a character and a name for himself; he will become a man of business in the true sense of the term; he will raise to eminence in his calling whatever it may be;

whilst those who appeared to have the start of him in the onset of life, being educated in indulgence and ease, with a prospect of ample means and influential friends to set them afloat, will lag behind and finally be lost sight of in the distance.

It is the poor boys of the present generation who are to be the men of business, the rich men of the next; and the rich boys of the present stock, if they don't mind their P's and Q's will be their servants and hirelings, so argues a thinking old man of my neighbourhood.

PETER JONES.

Bucks Co., March 1st, 1840.

For the Farmers' Cabinet.

A correspondent of the Farmers' Cabinet, under the signature of "Agricola," vol. iii., No. 7, requests "any of the readers of the Farmers' Cabinet to suggest a routine of crops compatible with the plan of putting the manure on the Indian corn ground in the spring, so as to make a consistent profitable rotation in the whole."

The application of manure in the spring, and "a consistent profitable rotation" has occupied much of my attention. That the application of manure to the corn crop will, as Agricola suggests, double the produce, is I think unquestionable, unless the ground be in high condition. The best evidence I can offer is the fact—that such was the case with my crop the past season—the field was not in good order—and something less than one third was manured; that portion yielded one hundred and fifty bushels, whilst the residue, more than double the extent, gave but one hundred and seventy-five bushels.

I am therefore decidedly in favour of manuring the corn ground in the spring. The manure should not be harrowed in, but ploughed under a sufficient depth, to prevent it from being washed off by heavy rains.

But a serious obstacle presents itself under this system, to a proper and profitable rotation, unless manure or lime can be had on reasonable terms. As that is not the case at my farm, and as we are obliged to depend on our own resources, I intend trying an arrangement somewhat different—as the routine I propose, would, in all probability, require a second coat of manure, if the first were applied to the corn ground.

As the great object with Agricola appears to be the application of manure in the spring, I offer the following plan, which I think will, on the whole, prove as profitable a course, as if the corn crop were doubled by the application of manure the first year of the routine, and a second coat become necessary.

The first year I shall trust my corn to the influence of a good sod turned down in November, and to good cultivation, during the proper season.

The next, or second year of the routine, I purpose applying all my manure in the spring for a root and green crop, viz. potatoes, sugar beets, Swedish turneps, pumpkins, &c., as circumstances may justify. To be followed the—

Third year—By oats laid down with clover; and Agricola may rest assured, that a good coat of stable manure from which a crop has been taken will do oats no harm, but insure an abundant harvest, and a fine growth of young clover. At the end of eighteen months the second crop of clover to be turned under, preparatory to sowing wheat for the—

Fifth year of the rotation—grass seeds to be sowed among the wheat; or what I think decidedly preferable, early in August to plough down the wheat stubble and weeds, and then to sow timothy, orchard grass seeds, &c., &c., as a separate crop, and if desired, clover the spring following. This will occasion some additional expense and delay—but the certainty of having the land well set with grass is so much greater, than if sowed late in autumn, or the following spring, with the seeds of the two first mentioned grasses, liable on the one hand to be injured by frosts, and on the other by the droughts and heat of summer, that I greatly prefer sowing such seeds as a separate crop, than incur the risks mentioned; besides winter grain is usually followed by an abundant crop of weeds, which exhaust the soil, and scatter their seeds, if suffered to stand, and the stubble is nearly all lost if suffered to rot on the surface; but by ploughing both under, as a preparation for grasses, they serve as manure, and I think fully compensate for the labour; the land may also be laid smooth, whereas I strongly incline to the opinion, that in addition to the furrows for carrying off the water, the ground for winter grain should be left rough, (and consequently less fitted for the scythe,) as by the action of frost and rain, the clods gradually slack down, and assist in covering the roots, which have previously been thrown out by the vicissitudes of the weather.

Some degree of latitude must nevertheless be allowed, as soils differ, and what may suit one farm or farmer may not suit another; each must be left to select the time for sowing grasses which best suits his case; when this has been done, let the land be appropriated to hay or pasturage, until according to the rotation I have laid down, it shall be again broken up for corn.

It will be observed that by this rotation the land will each year, the third excepted, receive some addition to its store of vegetable matter—and that but one grain crop will be

taken from the same ground in any two succeeding years previous to laying it down with the grass, after the wheat crop.

I have not yet tried the system, but send it that Agricola and others may give it due consideration, and with the hope that they will also give us in return, the benefit of their reasoning on the project.

I may view this offspring of my fancy with undue partiality, but I cannot help thinking favourably of its prospects, if it should receive fair treatment at the hands of those most interested in its welfare.

EXPLORATOR.

December 10, 1839.

For the Farmers' Cabinet.

Yield of Indian Corn.

What thou doest, do well, do thoroughly, and thou shalt have thy reward.

Our Indian corn crop is unquestionably the most important one produced in our country, and it requires no laboured disquisition to convince a farmer of the pre-eminent rank which it holds amongst the productions of the soil. It furnishes an abundance of nutriment, both for man and beast, but it requires a proportionate quantity of food, and much vigilant care, timely bestowed upon it, to render it reasonably productive. It bears starvation and neglect with an ill grace, and it is sure to reward the farmer according to his works, whether they be good or otherwise. It is not considered as an exhausting crop in proportion to the quantity of manure which it returns to the soil, provided it is fed on the farm. Although some farmers raise from twenty to fifty bushels to the acre, yet I suppose the average crop of the country, east of the mountains, don't exceed the former quantity. This is a very small produce compared with what we know the soil is capable of producing under favourable circumstances; and such circumstances, with the aid of a season adapted to a fair yield, it does not appear very difficult to command; at least on a scale of moderate extent compared with the resources of respectable farmers. A question very naturally arises whether it would not be better to undertake to produce a given quantity of corn on a small quantity of land, rather than to produce the same number of bushels on four or five times the extent of surface, and by that means save four-fifths of the labour and enjoy the pleasure of doing something pretty near right in the bargain. As the season for planting will soon be round, I have been thinking and calculating how to raise as much on an acre as is generally raised on five; that is to plant one-fifth the quantity, and "work it right," have the same quantity of corn, save the work, and have the satisfaction of doing right once in a lifetime to boot. Well, every body knows how to make ground rich, and how to plant and dress corn in the best fashion, though few are found who do it. I have made out a table showing the result of planting in rows of different widths, and giving the number of stalks on an acre under the different circumstances of planting; and I suppose each stalk to produce on an average half a pint of shelled corn, which appears not to be an unreasonable yield for good land well tilled. It is supposed to be planted in rows at equal distances, the rows to run north and south as near as may be, in order to give the sun the greatest possible advantage of extending its rays between, and on all sides of it, in the greatest possible degree, so that none of it may be shaded unnecessarily. Those who object to this arrangement may bring the same number of stalks into hills, and dress in both directions as is most common.

Rows apart. Feet.	Stalks apart in Rows.	Stalks per acre.		Bushels per acre.
6 by	1 foot	7260 at	½ pint each is	56
6 by	9 inches	9680	do	75
5 by	1 foot	8710	do	68
5 by	10 inches	10452	do	82
5 by	9 inches	11616	do	90
4½ by	1 foot	9680	do	75
4½ by	9 inches	12906	do	100
4 by	1 foot	10890	do	85
4 by	9 inches	14520	do	113
3½ by	1 foot	12444	do	97
3½ by	9 inches	16592	do	130
3 by	9 inches	19360	do	152

The above is the theoretical result from the data assumed for the calculation. Some will no doubt prefer one scale of distances for the rows and stalks, and others another; they are given as above with the estimated product supposed to result, in order to furnish a choice; it being presumed that none would consider it proper to go beyond the extremes of the table, and probably the mean of four and a half feet by nine inches might be considered, where the ground is made *rich*, to be about as close planting as would be safe, unless the corn is of a kind that has not a large growth. Now if one hundred bushels per acre should be the yield, would it not be much more advantageous to cultivate, say three acres, to produce three hundred bushels, than to plant twelve or fifteen acres in order to obtain the same quantity? I think no reasonable man could reply in the negative. But should it be thought too unreasonable to raise one hundred bushels of corn to the acre, though that has often been exceeded, try fifty or sixty, you can certainly go that amount without any great trouble or expense, and whatever that may be, you will certainly be richly remunerated, and obtain some reputation for pretty good farming in the bargain.

Quere, would not the difference of expense between ploughing the ground and cultivat-

ing three acres, and fifteen acres of corn, be sufficient to purchase manure enough to manure the lesser quantity of ground thoroughly!

AGRICOLA.

Philadelphia Co. March, 4th 1840.

For the Farmers' Cabinet.

Root Culture, Fall Planting, &c.

MR. EDITOR,—It is, I believe, not generally known, or considered that the seed of many of our most useful root crops will admit of fall planting; and yet there are few farmers or gardeners who have not had the fact fully demonstrated by the accidental falling of the seeds when they had ripened, and their vegetation in the spring without the least protection from the severity of the winter.

At the instance of a very observing and enterprising gentleman of Philadelphia, who has done much for the introduction of a more general root culture into this country, I made the experiment last year upon a small quantity of sugar beet, parsneps, and onion seed. But as the ground had become frozen before the suggestion was made, I had to embrace the opportunity afforded by a partial thaw in December, to deposit the seed without any previous preparation of the ground; and to supply the deficiency of warmth in the ground from the absence of the freshly applied manure, I gave the beds a slight covering of horse-stable litter, which was raked off in the spring, leaving the finer particles to be dug in as soon as the plants where large enough to admit of it. The result was, that I had a good crop of each, under these unfavourable circumstances.

Now as the cultivation of the sugar beet for stock is becoming an object of great and growing interest with farmers, wherever the experiment has been fairly tried, and, as in many instances much depends upon early planting, that the crop may be as far advanced as possible before the excessive heat of summer and frequent fall droughts, and as nothing that can be advantageously done in the fall should be left for the hurry and bustle of spring—fall planting may, in many situations, be profitably adopted.

If the ground be properly prepared by depositing the necessary quantity of manure in furrows immediately beneath the seed, as has been recommended in spring planting, the fermentation of the manure in the spring, which will have been retarded by the frost of winter, would so warm the ground as to produce vegetation before the earth would be in a suitable condition for planting under ordinary circumstances.

Other advantages would arise from the fertilizing effects of the frost upon the newly made ridges, and the destruction of numerous mischievous insects by this unnatural exposure to the rigors of winter.

The crop being already in the ground would not conflict with the ordinary spring work, which is frequently, though erroneously urged by the advocates of the *stand still system* of farming, as an objection to the cultivation of roots. I say erroneously, for the culture of roots for stock *need* not be in *addition* to the usual amount of labour done on a farm, but as a *substitute* for a part of that labour. For instance, the farmer who plants his ten or twenty acres of corn, should plant one, two, or three of these acres with beets, or such other roots as his experience shall teach him is best adapted to his soil and situation. If he plant in the spring, he has but to plough his root ground in the fall, if the sward be tough; if not, as a clover clay, spring ploughing will answer. If fall planting be adopted, the same preparation will be necessary. In either case the ploughing should be as deep as the soil will admit of, and the earth be perfectly pulverized before planting.

The beet succeeds well on any medium soil; though fresh liming had in some instances been found prejudicial to its growth. The cultivation of roots for stock on suitable ground, needs but a trial to recommend itself to the favourable attention of every farmer; for amongst the great amount of authentic testimony on the subject, not one item other than the most favourable has been adduced. It not only enables the farmer to support more stock upon the same ground, or sell a larger amount of surplus grain, but it contributes largely to the health, comfort and growth of his stock, and the consequent increase of his profits. The sugar beet is eaten with avidity by all of our domestic animals, but to the milch cow, the sheep, young cattle and hogs, they are particularly advantageous.

The fact that most animals grow and fatten readily upon grass, but will remain stationary or fall away upon hay, (the same article divested of its juice,) is conclusive evidence that some succulent is wanting; that the animal secretions are diminished from the want of green food; and as our climate will not furnish us with a natural supply during the winter, we must supply the deficiency by artificial means.

A. R. M.

Chester Co., Pa. Feb. 20, 1840.

To the Editor of the Farmers' Cabinet.

Improve Your Breed.

SIR.—There is a remark in a note at p. 140, of the 4th vol. of the Cabinet, stating, "If Bakewell had commenced improving his breed of sheep with the best dam, he would have accomplished his purpose in one-half the time," which has brought to my remem-

brance a fact which has passed immediately under my notice, and which I pray you to permit me to narrate.

A few years ago, I had the charge of a number of draught horses, which were used sometimes on farms, and at others on a railroad, for hauling coal and lime for agricultural purposes. These horses I purchased from the adjoining counties: but there was one amongst them, a black mare, which deserves particular mention; she was four years old, the progeny of a cross (accidental, of course,) between a very coarse and ill-formed cart-horse, and a fine blood mare of the highest pedigree. Her head was coarse and heavy, like the sire—her beautiful neck and shoulder were the dam's. The body, including the hips, which were high and bony, the sire's; while the rump, and especially the setting on of the tail, with the thighs and fore and hind legs, to the knees and hocks, peculiarly the dam's. The legs, below the knees and hocks, with hairy fetlocks and large flat hoofs, the sire's; while her coat was black as jet, and slick as a mole. So, you see, she might be compared to John Sniggs' horse, which every body said was *packed up in two parcels.*

But the disposition of this creature was entirely that of the dam; and her spirit and lightness of temper, were superior to any thing I ever witnessed—and, as the driver used to say, "she was as handy as a Christian:" always first into the stable, and first out of it; and as furrow-horse of a pair-horse plough, she was unequalled. She would never overstep the trace, at turning; for she was always up with her work, and could judge of the proper distance for turning in, better than many ploughmen that I have had—would stop at the word given, in an instant, and was the first to move at the sound, *Spec*, (her name was Spectre,) without ever having felt a whip in her life. She was hardy, and a good feeder; but could never be made to carry much flesh. This, however, was not in consequence of irritability of disposition; for she was never in a hurry: and when at work on the railroad, where three horses had sometimes to move as many as fifteen wagons of lime, she would lay so steadily down to her work, as never to endanger the harness. A child might manage her; and in a light cart, she was remarkably tractable, with great speed and bottom.

Now, I have not the least doubt, that horses of superlative strength, beauty, speed, and disposition, might be bred, by crossing thorough-bred mares with the handsomest cart stallions—of suitable size, of course. The idea might be new, and might appear to some, a sacrifice which ought not to be indulged in; but if carriage horses, worth one thousand or fifteen hundred dollars each, could be bred by these means, I should like to be one of the first engaged in such a sacrifice. The great advantage would be, that the foal would acquire a lightness of step and disposition, by running with the high-bred dam, while on the contrary, foals, the progeny of the blood horse and the cart or heavy mare, are naturally apt to take up the heavy step and clumsy habits of the dam, of which it is oftentimes impossible to break them. So that, if I were in the way of making the experiment, I should not despair of breeding horses that would prove the truth of the remark, that "If Bakewell had commenced his improvement with dam the best, instead of sire the best, he would have accomplished the end aimed at, in one-half the time."

G. B.

Doylestown, Feb. 28, 1840.

For the Farmers' Cabinet.

OBSERVER, NO. XXI.

Farmers' Mutual Insurance.

It is a gratifying fact a deep interest is beginning to be felt among the farming community in relation to the plan of *Mutual Insurance* against loss by fire, which was recommended in my 15th number. (See Farmers' Cabinet, vol. iii., p. 44.)

Since that article was written several local societies have been formed, and are now in successful operation. A number of others are being formed on the same plan. And if I may be allowed to judge from the numerous inquiries which reach me from various quarters, there are many more in contemplation. In order to afford a summary answer to these inquiries, and to extend a knowledge of the plan as wide as possible, I have determined to furnish for the ensuing Cabinet a *Form* of a Preamble and Constitution for such a society, together with some of its most obvious By-Laws, and a few explanatory remarks. If the proposed form does not exactly meet the views of those for whom it was prepared, it may still aid them in the preparation of a better one.

CONSTITUTION

OF THE

FARMER'S MUTUAL INSURANCE SOCIETY

OF

* * * * *

Exposed to the continual liability to loss from fire—a loss always inconvenient, and often irretrievable—we are sensible of the importance, and desirous of securing the advantages of an insurance against such loss. We also believe that the only true foundation of Insurance is Benevolence—and its ligitimate object assistance in distress. We,

the subscribers, do therefore associate together under the name and title of "*The Farmers' Mutual Insurance Society of* * * * *," for the purpose of mutually insuring each other against loss from the destruction of property by fire. And for the accomplishment of the same, we do hereby mutually bind, and severally obligate ourselves each unto the others for the full and faithful performance of our duties as members thereof, agreeably to the following

ARTICLES.

Article 1.—Any person residing and holding property in the township of * * * * may become a member by signing this Constitution—paying twenty-five cents into the treasury—and otherwise complying with its rules and regulations. But any member may be expelled for non-compliance.

Article 2.—The officers of the society shall be a President, Secretary, Treasurer, three Managers, and six Appraisers, who shall severally perform the duties usually appertaining to their offices, and such other services as it may direct.

The President and Secretary shall be *ex officio* President and Secretary of the Board of Managers.

The Managers and Appraisers shall each have power to fill vacancies in their respective Boards.

Article 3.—The members shall enter their property to be insured with a valuation thereof, on the books of the society—and when any property so entered shall be destroyed by fire, such valuation shall be made the basis of a tax to remunerate the loss. *Provided*, That when property is exposed to inordinate risk, the society shall have power to impose an additional tax in proportion to its increased liability.

Article 4.—In all cases of damage from fire, the Appraisers shall determine the amount of loss actually sustained—but the society will in no case pay more than the insured value of the property destroyed.

Article 5.—The insurance shall be considered perpetual, only subject to adjustment when either the managers or owners shall desire it.

Any one may withdraw from the society at the end of the year—not being in arrears.

Article 6.—The society shall meet annually on the second seventh day in the fourth month, at which time the officers shall be elected.

The Managers may call special meetings when necessary.

Article 7.—The society may make any By-Laws, Rules and Regulations for its own government, not inconsistent with this instrument.

Article 8.—This Constitution may be altered or amended with the consent of any annual meeting—*Provided*, such alterations and amendments shall have been minuted and referred thereto by a previous annual meeting.

Done at , this day of the month, one thousand eight hundred and , and signed by

The foregoing Constitution is intended briefly to declare the *principles*, and to confer the *powers* of the society. The execution of them must be governed by something like the following

BY-LAWS.

1. The members may enter any or all of their buildings, either with or without the contents. A landlord may enter the buildings—a tenant the property contained in them.

2. All property shall be classed and considered either *ordinary* or *hazardous*, according to its liability to fire.

First.—Ordinary.—This class shall include all common farm buildings, such as houses, barns, carriage houses, granaries, &c. *Provided*, That barns unprotected by lightning rods shall be subject to an additional tax of 25 per cent.

Second.—Hazardous.—This shall include mills and manufactories, malt stories, breweries, mechanics' shops, stores, &c.—all of which to be subject to extra taxation, according to the following scale.

(This must be fixed by each local society.)

3. In all cases where the rate of taxation is not determined, the Managers shall have power to settle the terms of admission.

4. The managers shall provide suitable books wherein the Secretary shall enter the names of the members, with a specification of their property, designating each building and contents, and the respective values at which they are insured.

When subject to extra taxation, the rate thereof shall also be entered, and the equivalent taxable value carried out.

An entry of the withdrawal or expulsion of a member shall also be made on the book.

The Secretary shall furnish each member with a transcript of his entry if demanded.

5. The liabilities of the members shall commence and determine at twelve o'clock at noon, on the day when their names are entered, withdrawn, or erased.

6. The minutes of the Board of Managers, and a statement of the Treasurer's accounts, shall be submitted to each annual meeting.

7. When any member sustains a loss from fire it shall be his duty to give immediate no-

tice thereof to the President or Secretary, who shall furnish him with an order on the Appraisers, requiring them to view the premises, and after hearing the necessary evidence, to value and determine the amount of loss actually sustained—not exceeding the insured value—and make report within ten days.

Two-thirds of the Appraisers shall be a quorum, provided they all sign the report.

8. On the reception of the Appraiser's report, the Managers shall proceed to levy a *pro rata* tax on the insured value of the members equal to the adjudged damages, and a sufficient *per centum* for collecting the same. They shall also appoint a collector.

The Secretary shall furnish the Treasurer with a duplicate of the tax, and shall give public notice by six or more hand-bills, requesting the members to pay in their respective dividends to the Treasurer within twenty days. The Treasurer shall make a deduction of the *per centage* for collecting in favour of those so paying.

At the expiration of the twenty days, the President shall issue his order to the collector to collect the out standing dividends, and pay them over to the Treasurer within thirty days.

9. The President shall give the sufferer an order on the Treasurer for the amount due to him, payable within sixty days from the occurrence of the fire.

10. If any member shall neglect or refuse to pay his tax—and in due process at law does not settle the same to the satisfaction of the Managers, they may erase his name from their books, and he shall not be re-admitted into the society until he has paid his arrearages with interest, and obtained the consent of two-thirds of the members present at an annual meeting.

The plan of insurance here proposed is at once simple, economical and effectual. Unincumbered by the management of funds or high salaried officers, it nevertheless affords the best possible security for a remuneration of losses from fire, while the insured pay no more money than what is actually lost, and pay it directly to the loser. He contributes nothing to the usurious stockholder in form of exorbitant dividends.

It will be observed that the proposed forms are intended for distinct township organization. I would strongly urge the propriety of this method in preference to more extended associations, even where the number of members in a township may be small. If one such township society should feel too weak to sustain a heavy loss without too much inconvenience, I would advise that two or more companies should form a *union* for their mutual help, so conditioned that they shall each contribute to any loss which may occur, in proportion to the taxable amount on their books. Thus every township will transact all the business within its own limits, and the *union* will possess abundant means to meet whatever losses may occur.

I am happy to find that the plan of distinct township societies, with unions where necessary, has been favourably received by the agricultural community wherever it has been proposed and clearly understood.

New Garden, 2nd mo. 26, 1840.

P.S. Editors of agricultural and other papers, who are friendly to the measures proposed, will please to give this article an insertion.

On the Preparation of Plaster for Rough Casting.

[Read before "The Philadelphia Society for Promoting Agriculture," Feb. 5, 1840, by James Mease, Vice President.]

As country houses, barns, or the gable-ends, are often rough cast, and it is very common to see the plaster falling off in a year or two after being put on, it seems to me that directions to insure its permanent adhesion, will be acceptable to the society.

1. As to the materials: The lime ought to be recently calcined, or at least in a perfectly caustic state, and the sand sharp and coarse, and entirely devoid of clay or earth of any kind; but if none free from this admixture is to be obtained, it must be washed repeatedly until all the earth is completely removed. Then, to four bushels of the sand, add one of lime: if sharp sand cannot be procured, five bushels must be used.

2. Slake the lime as if intended for whitewashing, in a box which may be six feet long, by four feet six inches in width, raised eighteen inches from the ground; and when well mixed, it is to be strained through a sieve, and the wash let off at one end of the box through an aperture, which is to be commanded by a perpendicular slider, directly on the sand, previously made into a circular heap and hollow in the middle; and then faithfully mixed. But no more is to be made in the morning than will be used in the course of the day. That portion of the lime that does not strain is core, and may be used for stone work, or for lining joists to keep out rats and mice, or for the floor of a milk-house. Molasses, in the proportion of a quart to a bushel of lime, thoroughly incorporated with the mass, tends to harden it and promote its adhesion.

3. The first coat must be perfectly dry before the second is laid on; and before the second is commenced, the first must be passed over with a white-wash brush dipped in water. Two coats are enough; and if the stone

work of the building be cracked, the thicker must the first coat be.

It is judicious to make up some mortar with as much sand as the lime will take up, and plaster a yard or two with it, previously to commencing work. If in the course of three days the plastering should crack, add more sand; but if no cracks be perceived, then proceed to use the proportions employed, and these should be noted as a guide in future.

After the second coat has been put on, it must be faithfully hand-floated; this is essential, and is done by wetting the wall with a brush, and then rubbing it with the float. This tool consists of a piece of board a quarter of an inch thick, ten inches long, and five wide, with a handle on the middle of the back.

Plaster should not be connected with wood, unless protected by the eaves of the house, because the wood shrinks and lets in the rain. A fascia should extend under the eaves along the whole length of the wall, and the plastering should only descend to the base, as in the old prison, Walnut street.

Remarks.—The foregoing was kindly written out in 1828, at my desire, by the late Mr. Thackara, plasterer of Philadelphia, and an estimable citizen, on the occasion of a friend from Pittsburg requesting information on the subject for the benefit of a church then in progress in that city. I visited the church in the year 1834, and was pleased to find the plaster perfectly sound—a proof that the directions were faithfully followed, as I was confident they would be from the business habits of the gentlemen who was one of the building committee.

Thirty years since, my attention was called to the rough casting on the walls of the prison, by that most ingenious man, the late John Dorsey, who ascribed its durability, beside the excellence of the plaster, to the circumstance of a stone fascia immediately under the eaves of the building, and to the plastering having been done up to its lower side, which left no vacancy for the intrusion of rain-water; and which, he remarked, always happens when the plastering touches a cornice or fascia of wood, owing to the shrinking of the wood in hot, dry weather. The water trickling down from the roof, soon found its way behind the wood, rots the mortar, destroys its cohesive power, and causes it to tumble. In that admirably constructed prison, as regards workmanship, from the year of its erection in 1774, to that of its demolition in 1837, there was not the smallest appearance of the plastering having given way; whereas, in modern structures, roughcast, it is rare for a year or two to pass after they are finished, without some of the plastering falling off, causing when repaired, a permanent and ugly patch. The base of the prison walls was faced with granite slabs, to which the plastering of course firmly adhered.

Hints and Recipes.

LABOUR SAVING SOAP.

The following is a recipe for making the labour-saving soap, (so called,) which is an excellent article for washing, and a saving of labour. The recipes for making have been sold at from $5 to $10, and the soap seven cents per pound; but can be manufactured for about two cents. Take two pounds of sal soda, two pounds of yellow bar soap, and ten quarts of water; cut the soap in thin slices, and boil all together two hours, then strain it through a cloth; let it cool, and it is fit for use. Directions for using the soap:—Put the clothes in soak the night before you wash, and to every pail of water in which you boil them, add one pound of soap. They will need no rubbing; merely rinse them out, and they will be perfectly clean and white.

FOR MAKING VERY FINE COLOGNE WATER.

Oil of lavender one drachm; oil of lemon two drachms; oil of cinnamon eight drops; tincture of musk ten drops; oil of bergamot one drachm; oil of rosemary two drachms; oil of cloves eight drops; rectified spirits of wine one pint. Have ready the spirits of wine in a clean bottle. Then get at an apothecary's the above mentioned oils and the tincture of musk, having them put together in a small phial; pour them into the spirits of wine, shake the bottle well and cork it tightly. It will be immediately fit for use, and will be found far superior to any cologne water that can be purchased, and more economical.

TO TAKE A RANCID TASTE FROM BUTTER.

Melt and simmer it; then dip into it a crust of bread well toasted on both sides. Bad butter may be cured by melting it in a considerable quantity of hot water, skimming it off, and working it again in a churn, with the addition of salt and fine sugar.

BEE MOTH.

Mr. James Thatcher, author of the "American Orchardist," &c. &c., in a communication to the New England Farmer, says: "I will embrace this opportunity to communicate for the benefit of the cultivator, what I believe to be an infallible remedy against the bee moth, which has proved so destructive to bees throughout our country of late years. The remedy is simple and easily applied. It consists merely of covering the floor board on which the hive stands, with common earth about an inch thick. A hive set on earth

will nevet be infested with worms, for the bee moth will not deposit her eggs where the earth will come in contact. She naturally resorts to a dry board as her element. The remedy has been employed by a number of persons in this vicinity for several years, with the most complete success."

PRESERVING BEES.

These industrious insects have been successfully preserved from the miller by having tubes projecting some ten or fifteen inches from the hives, instead of holes cut in the sides for their passage way into the hives. The miller will not light on the end of the tube, and is unable to find an entrance.

A correspondent of the Genesee Farmer buries his bees under the ground in winter—digs a trench in light elevated ground, the bottom having a gentle slope to guard against standing water; places the hives on small stones, and then covers them with straw and earth. Of thirty to forty hives thus buried, he lost none. They consumed less honey than when kept in the usual way.

CHINESE MODE OF PROPAGATING TREES.

A small rope of twisted hay or straw filled with cow dung is repeatedly wound round a suitable branch of a tree. Above this a gourd or other vessel is suspended, having a small hole that will keep the hay rope continually moist. Three-fourths of the circumference of a narrow strip of the bark is removed. In about a month half of the remainder of the bark is removed. In another month, or less, the mass of straw rope will be filled with roots. The branch is now very carefully separated and placed in the situation desired.

TO DAIRY WOMEN.

To prevent that rancid nauseous flavour which is too often prevalent in cheeses, even when made of the richest milk, and which, otherwise would be delicious, salt the milk as soon as it is taken from the cows: I mean the evening's milk, which is kept in pans during the night, in order to be mixed with the new morning's milk. The quantity of salt to be used on the occasion, is about a table spoonful to each gallon of milk, and is generally sprinkled on the bottom of the pan, and the milk poured upon the salt, and they soon become incorporated. This early salting has enabled many dairy women, whose cheese was before always hoven and detestably rank, now to produce excellent and well-flavoured cheese, and on farms that had been pronounced totally unfit for the dairy system.

CEMENT.

To make cement for glass and earthen ware, take unslacked lime, the fresher and finer the better, pulverize it in a mortar, and sift it through a fine sieve or coarse muslin. Mix this thoroughly and rapidly with the white of eggs, so as to form a thick paste, and use it immediately. Broken dishes may be mended with this cement, and if neatfully and skilfully done, adhere very strongly. Isinglass dissolved in alcohol is also strongly recommended as a good cement for this purpose.

SODA.

A few ounces of soda will soften a hogshead of the hardest water. It is greatly superior to either pot or pearl ash, giving a delicate whiteness to the linen, without the slightest injury, and it never, unless excess is used, in the least affects the hands.

Profitable Farming.

The following facts are stated in the last number of Governor Hill's Monthly Visitor:

James Hill, of West Cambridge, has taken, in ninety successive days, five thousand dollars in cash, in Boston market, for articles raised on his farm.

Isaac Locke, of the same town, has raised the present year, thirty barrels of quinces, which sold on the ground for seven dollars a barrel; he has also sold in the present autumn, several barrels of Baldwin apples at three dollars per barrel.

The value of the strawberries raised in West Cambridge, and sold in the Boston market, is more than was taken thirty years ago for all the agricultural products of the town put together.

The apple orchards of this town are extensive. Two hundred, three hundred, five hundred, and sometimes a thousand barrels of carefully picked apples are produced in a single year by one farmer.

George Pierce of the same town, cultivates only *seven acres*, and yet he has taken in the market for produce, the present season, as by memorandum kept, *nearly or quite* four thousand dollars.

This season, very early, among his articles for market, was about one-third of an acre of the dandelion, which grows spontaneously in many mowing fields—these he with some difficulty obtains from the seed; but the crops turn out very profitable. He had about an acre of strawberries, from which upwards of two thousand boxes of that fruit were picked last summer; these at 37½ to 50 cents a box, for which they readily sold in the market, produced not a small profit on a single acre.

G. Pierce also cultivated the raspberry, which thrives with great luxuriance. He thinks he could make of the *blackberry*, which grows in the hedges and amongst piles of decayed wood or rocks in neglected fields, a profitable article.

Theory of Dew.

Notwithstanding the researches of Dr. Wells, and others, upon the subject of dews, there are many who still remain either in total ignorance of the principles of the deposition of the moisture, called dew, or hold to the old theory that it is caused by the *air alone becoming colder.* The ancient Greeks observed the fact, that dew was deposited in clear nights, and not in windy or cloudy ones, and every barefooted boy who goes out early in the morning, knows that it is much more abundant on the grass by the wood side, than it is upon the sand or gravel in the road itself. Dr. Wells, of England, made many experiments upon the subject; and from the facts thus ascertained, explained the cause of the phenomenon, in a treatise which he published some time ago. He ascertained the cause of the deposit of moisture in the form of dew, to be the radiation or throwing of the heat imbibed by the sun, which thus cools the particles of air that come in contact with it, and causes the moisture which was in the warm air, to be condensed. It may be well, for the better understanding of the theory, to state, in the first place, that as all bodies receive heat more or less easily, so they part with it, or *radiate* it more or less easily. Some bodies will part with, or radiate the heat which they have received, as fast again as other bodies. Hence they become cooled before the others. Warm air will hold more moisture than cold air: therefore, the body which radiates heat fastest, becomes cool first, and cools the particles of air which surrounds it, which deposits the moisture or dew upon it first. Grass parts with its caloric, or heat, much faster than sand or gravel—hence it has more dew upon it.

The following experiments may not be uninteresting to some of our readers. After a long period of drought, when the air was very still, and the sky serene, Doctor Wells exposed to the sky, twenty-eight minutes before sunset, previously weighed parcels of wool and swandown, upon a smooth, unpainted and perfectly dry fir table, five feet long, three broad, and three feet in height, which had been placed an hour before, in the sunshine, in a large, level grass field.

The wool, twelve minutes after sundown, was found to be fourteen degrees colder than the air, and to have acquired no weight. The swandown, the quantity of which was much smaller than that of the wool, was at the same time thirteen degrees colder than the air. In twenty minutes more, the swandown was fourteen and a half degrees colder than the surrounding air. At the same time, the grass was fifteen degrees colder than the air four feet above the ground. From such experiments, he established the proposition, that bodies must become colder than the surrounding air, before they become dewed.

He also explained the reason why there was no dew in cloudy nights. It is because the clouds act as reflectors, and throw the heat back again; in the same manner as the bright tin top of a tin baker throws down or reflects the heat down upon the bread. A blanket, or umbrella, put over any body, would prevent the dew settling on that body for some time, although it was falling all around it.

On this principle, vines, and other things, are protected from frosts, by putting a blanket or covering over them, at night.

Frost is dew frozen. By putting the covering over the body, it reflects heat back, and prevents, for some time, the dew being deposited upon what it covers.

[*Maine paper.*

Change of Soil Effecting a change in Plants.

A change of soil may be effected either by removing a plant from one spot of earth to another, differing from it in fertility, or by the addition of manure, producing a change in the character of the soil in which the plant grows, without changing the location of the plant. The effect of removing a plant from a comparatively barren to a more fertile soil, is to increase the size of all its parts, and often to convert its organs of one kind into those of another. Experience has taught us, that it is advantageous to supply food to plants artificially. Where increase in the size of vegetables, without reference to their number, is desired, it can almost always be accomplished by affording an increased supply of all the ingredients of the food of plants, distributed in a well pulverized soil, in such a manner that the roots of the plants can easily reach it. The effect thus produced can be greatly increased by additional heat and moisture, and by a partial exclusion of the direct rays of the sun, so as to modify the evaporation of fluids from the plant. Experience alone can determine to what extent this may profitably be carried in the case of such species of vegetable. The results which have been produced in some instances, are truly remarkable. Loudon states, that cabbages have been produced, weighing half a hundred weight, apples a pound and a half, and cabbage-roses of four inches in diameter, or more than a foot in circumference. By cultivation and a change of soil, the appearance of many trees has been entirely altered. The wild crab-apple, the original stock from which all our vast variety of apples have sprung, has its stem and branches set thick with thorns. On removing it to a more fertile soil and more favourable circumstances,

all these thorns have disappeared, and their place has been supplied by fruit-bearing branches. Yet all the distinctive characteristics of the tree, the structure of its wood and bark, the shape and arrangement of its leaves, the form and aggregation of its flowers —indeed, all that a botanist would consider characteristic of the plant, have remained unchanged.

Perhaps the most remarkable changes which result from a change of soil, are those of organs of one kind into those of another. It is by such changes that all our double flowers have been obtained. The organs which are most commonly converted into others, are the stamens, and next to them the pistils. In the hundred-leafed rose, and some other double roses, almost all the stamens have been converted into petals: in the flowering cherry, the pistils have been converted into green leaves—in the double columbine, a part of the stamens have been converted into petals, another part into nectaries, whilst a third part have retained their original form. The perfect regularity with which the changes have taken place in the last mentioned flower, is worthy of notice. Wherever one stamen has been converted into a petal, a corresponding one has always been converted into a nectary; and so regularly have these changes proceeded, that by careful dissection, you may separate one of these double flowers into several single ones, each perfect in itself, and destitute of none of its appropriate parts. Where flowers have been doubled by art, the only sure way of propagating them, is by some means by which the new plant should be nothing more than a continuation of the old one, as by slips or cuttings. Whenever the seed is resorted to, there is danger that the plant will revert to its original type, and the flowers appear single again. A change of colour also frequently results from a change of soil. Respecting the nature of this change, no fixed laws have been yet discovered. As a general thing, however, the brightness of the colours of a flower is injured by enriching the soil in which it grows; and hence florists, when they wish to procure tulips of very bright colours, prefer planting the bulbs in a light sandy soil, which is rather poor than otherwise.—*Farmer's Register.*

Scurrilous epithets are like foul birds, which transiently disturb and disfigure the foliage of the trees on which they light, but whose nature is never mistaken; for they carry on their feathers the pollutions of the nest in which they were hatched.

THE FARMERS' CABINET.
PHILADELPHIA, MARCH 16, 1840.

Cabbage, as Food for Hogs.

A gentleman remarked, in our hearing, a few days since, that cabbage was a valuable food for store hogs. The idea was new to us, and we inquired the manner of feeding. In reply, he gave us the following as the result of his experience, the last summer. Having a fine patch of plants, and observing the bottom leaves beginning to decay, he directed his farmer to procure a water-tight cask, and gather a bushel of the lower leaves from the cabbage plants, and deposit them in the barrel, with a handful of salt, and one quart of corn meal. On this was poured the contents of the kitchen swill-pail, and the whole was suffered to stand undisturbed for twenty-four hours, when the process was repeated, with the exception of the salt—and so, every day, until the cask was filled with a mass of wilted leaves, about six quarts of corn meal, potatoe peelings, crumbs of bread, &c., from the kitchen; all in a state of partial fermentation. He now commenced feeding it to the hogs, and they eat with greediness, leaving other food for this. They were evidently as fond of this kind of mush, as ever "Mynheer" was of *sour-krout.*

While the hogs were consuming the contents of the first barrel, a second was in course of being filled, and so alternately, till the stock of leaves was exhausted, which was about four weeks.

This gentleman gave his opinion, that he could not have prepared any other kind of food for his hogs, known to him, at double the expense, that would have produced results so decidedly beneficial. An increase of appetite, improvement in their general appearance, and better heart, was the result of this method. The cabbages, he thinks, were greatly improved by plucking the redundant foliage; and he intends to plant a large patch of cabbages, the coming season, more fully to test the advantages of this kind of feed for hogs. We invite him, and others who may "experiment" in the business, to give us the results, for publication.

Davis' Patent Dirt Scraper.

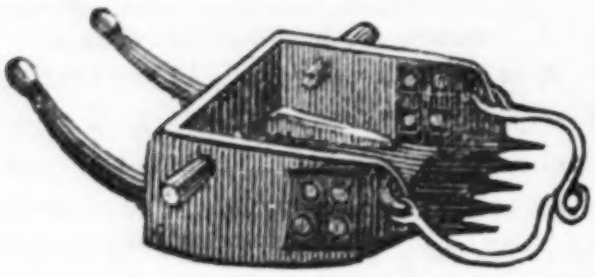

Fig. 27.

The Road or Dirt Scraper, invented by Shadrach Davis, differs from all others, in the construction of its points, which resemble those of a plough. They enter the ground easy; fill and discharge themselves—are adapted for horses or oxen—and can be used to great advantage in removing dirt or gravel.

We consider it a great improvement on the common road scraper, and can with confidence recommend it to the public, as being superior to any implement of the kind we have ever used, particularly in sandy and stony land; being so constructed as to load itself without the use of ploughing, which is common in using the old fashioned dirt scraper. We consider it one of the greatest labor-saving implements to road making, that can be used; and as such, we fully recommend it to the public.

This article can be obtained at the agricultural ware-house, 87 North Second street, Philadelphia. Price, $12.

C. J. Wolbert, Esq., has invented a harrow for marking out sugar-beet ground, preparatory to planting. It is a simple and cheap affair—will save much time and labor—and requires the first or starting row, to be drawn true, to insure even planting of twenty-seven inches, however large the field.

Persons intending to plant the sugar-beet, this season, can have an opportunity of examining it at the auction store, in Carpenter's Court.

For the Farmers' Cabinet.

Quantity of Rain.

Table, showing the quantity of rain and melted snow which has fallen for 30 years: the first 14 years by the rain guage of P. Legoux, of Springmill, and 16 years by the guage kept at the Pennsylvania Hospital, in the city of Philadelphia.

	Inches.		Inches.
1810	32.656	1825	29.570
1811	34.968	1826	35.140
1812	39.300	1827	38.500
1813	35.625	1828	37.970
1814	43.135	1829	41.850
1815	34.666	1830	45.070
1816	27.947	1831	43.040
1817	36.605	1832	39.870
1818	30.177	1833	48.550
1819	23.354	1834	34.240
1820	39.619	1835	39.300
1821	32.182	1836	42.660
1822	29.864	1837	39.041
1823	41.815	1838	45.299
1824	38.740	1839	43.739

The above furnishes an annual average of nearly 37½ inches, for 30 years. The person who makes the above returns, has good instruments, and the observations are made with great care—so that it is believed the results may be relied upon as being very correct. It would be very desirable that a similar set of observations should be made in every state in the union, and published annually, for comparison.

Quantity of rain and melted snow which has fallen since January 1, 1840. Inches.

1st month,.....1.85

2d month,.....3.01

Philadelphia Hospital, 2d mo. 1, 1840.

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